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ORIGINAL ARTICLES.

IMMEDIATE PERINEORRHAPHY. TWO FORMS OF RUPTURE; THE SPECIAL TREATMENT OF EACH; CERTAIN DETAILS IMPORTANT TO SUCCESS.

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[Read before the Obstetric Section of the American Medical Association, June, 1883.]

During the past few years I have examined such gynæcological cases as came under my observation for evidence of previous perineal rupture, and have specially observed, in those cases in which the immediate suture had been applied, whether the union had been such as to give the patient a solid, normal, triangular perineal body, capable of fulfilling all its functions. These observations were undertaken not for the purpose of publication, but as the basis for an individual judgment, and this is my excuse for the absence of accurately recorded statistics, but the conclusions which have forced themselves upon me are so adverse to what had been anticipated, and seem so important, that I venture to place them before you, as follows:

Upon ocular examination of the cutaneous side of the perineal triangle, this was, in the majority of cases, found united, but one index finger in the rectum and the other in the vagina showed an almost constant failure of union in the deeper muscular and connective tissues of the organ, with the resulting tendency to descent of the uterus by traction from the prolapsing anterior and posterior vaginal walls. It may be that the difference of opinion among the profession on the value of the primary operation of perineorrhaphy partly arises from the failure of many to examine with reference to the presence or absence of union in the deeper portions of the perineal body, and it would indeed seem that an important advance will be made when the whole profession comes to the practical appreciation and application of a certain truth, which with many appears to have little more than theoretical recognition. It is this: the cutaneous and subcutaneous structures constitute relatively the least important part of the organ, and that when rupture occurs, union of these structures, *i. e.*, the production of the so-called thin perinæum, is of little consequence, because the deeper and more important structures have failed to unite. Assuming that the cases which I have examined may fairly be considered as representatives of their class, it follows that the immediate suture, as ordinarily applied, often at least, fails to fulfill its indication, and that it must either be made more efficient, or we must postpone all operative procedure until after convalescence, and then rely on the secondary operation. But, in such postponement, we fail to meet what many would regard the most vital and immediate indication for perineorrhaphy, *i. e.*, danger of sepsis by absorption through the torn surfaces, which, from their location and surrounding conditions, are peculiarly favorable to the development of wound disease.

But if the sutures fail to produce complete union of the torn surfaces, it is evident that they also fail to protect against sepsis. Indeed, they rather favor its development by producing additional irritation, and thus acting as a cause of wound disease. Moreover, the union of the cutaneous surfaces by closing the superficial part of the perinæum only, forms a pouch of the deeper torn surfaces, where the discharges may accumulate, and through which they may be readily absorbed. To prevent this, various faults in the primary operation should be avoided, and among them, the most important are certain defective methods of passing the sutures. I have myself seen the operation performed a number of times when only superficial sutures were used. Evidently such a procedure would not only be liable to fail of full union, but would also favor the formation of the already mentioned pouch, where the discharges from the uterus could accumulate and become septic. But it is possible that an equally effective source of error is in the failure to distinguish between the different varieties of rupture, and therefore to give to each case its proper method of suture.

The commonly accepted form of perineal rupture causes the perineal body to be separated into two parts, the one retracting to one side and the other to the opposite side of the vaginal outlet. In this form of rupture, we have two plane, raw surfaces of triangular shape to be approximated. The method of operation is almost self-evident. It requires the sutures to be passed transversely from one side of the raw surfaces to the opposite side, commencing at the vaginal extremity of the rent, and continuing them one after the other, at intervals of about one-fourth inch throughout its whole extent, the last suture being nearest to the anus. When the operation is complete, about one-half of the sutures have their points of entrance and exit in the vaginal, and the others on the cutaneous side of the perineal triangle. It is owing to the fact that many practitioners omit the

vaginal sutures, that union in the deeper perineal structures is so often wanting. Sometimes the attempt is made to draw the vaginal portion of the rent together by a single suture, having its points of entrance and exit at the posterior commissure of the restored vulva, and passing around the vaginal portion of the rent, so as to pull its inner extremity forward and either draw the margins on either side into a pucker or cause them to gape. The following schematic drawings will illustrate :

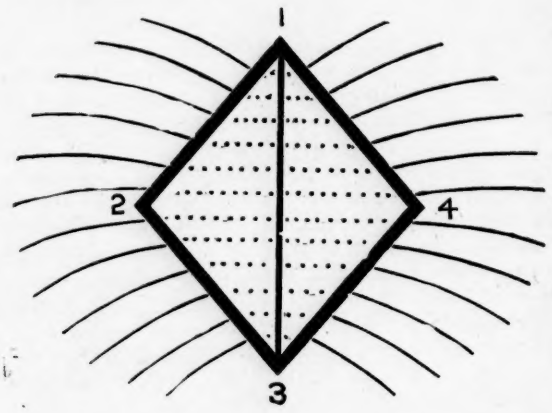

FIG. 1.

Figure 1 shows the two lateral triangular torn surfaces, with the sutures introduced in such manner that, when tightened, the surface 1, 2, 3 shall be in contact with the surface 1, 4, 3. All sutures above points 2 and 4 are in the vaginal portion, and those below 2 and 4 are in the cutaneous portion of the perinæum. On account of the difficulty of removing the vaginal sutures, silk or catgut might be substituted for silver in this part of the wound.

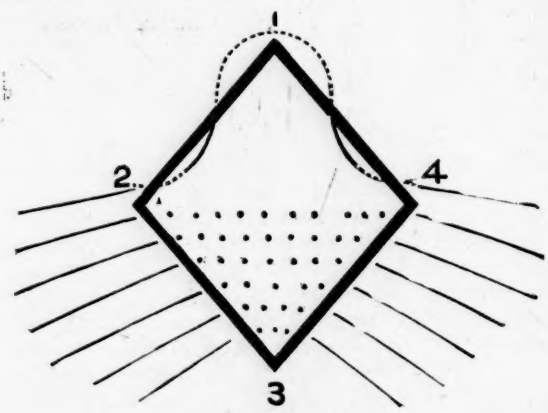

FIG. 2.

Figure 2 shows the sutures introduced on the cutaneous side, and a suture 1, 2, 4 on the vaginal side, in place of the proper vaginal sutures as shown in figure 1. It is evident that, after approximating the torn surfaces on the cutaneous side by tightening the cutaneous sutures, the vaginal suture 1, 2, 4, which properly belongs in the secondary operation, would in the primary operation for this form of rupture, only serve to prevent proper union of the vaginal margins of the wound by causing them to pucker or to gape.

Obviously, the last-named suture, although indispensable in the secondary operation, meets no indication in this formof rupture, but, by its action of corrugating the margins of the vaginal portion of the wound, tends rather to distort than to restore the perinæum.

But there is another form of perineal rupture, not mentioned in the standard text-books, and, so far as I am aware, hitherto undescribed, in which the operation just mentioned (see figure 1) is not only impossible, but its attempt must necessarily be followed by failure of deep union. It is a form in which the tissues are separated in three directions instead of two. Text-books on midwifery mention as an accident of great rarity the so-called central rupture, in which the child, instead of passing through the vulva, tears its way through the perineal body, and passes out by an opening somewhere between the posterior commissure of the vulva and the anus.

I would now ask your attention to one of the special points of this communication, which is that, although complete central rupture of the perinæum is a rare accident, incomplete central rupture is not so rare. Indeed, there is reason to suppose that in a large proportion of cases, the rent commences as a central rupture, but instead of going on to complete perforation of the perineal body, the tissues in front give way and retract to either side, by a rupture extending through the posterior commissure back toward the anus. Now, if the commencing central rupture be also in the antero-posterior direction, then the whole rupture is of the simple form already described ; but if the central portion of the rupture be transverse instead of antero-posterior, and extend from side to side of the perinæum, whether in a straight, curved or broken line, then all the perineal structures beyond it must be retracted toward the inner extremity of the vagina, and the closure of the perinæum thus ruptured must necessitate the approximation of tissue from three directions. The following figure will illustrate :

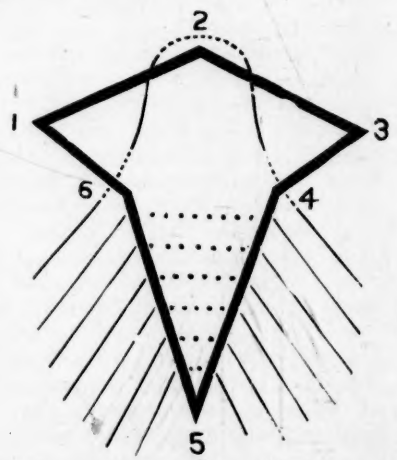

FIG. 3.

Figure 3 represents the transverse central rupture. The surfaces included within 6. 1. 2, 3, 4, are on the vaginal, and most of those between 6, 5, 4, are on the cutaneous portion. The sutures in the cutaneous portion are intended to approximate the tissues from side to side. The suture 6, 2, 4, when tightened, should draw into apposition the two margins of the transverse vaginal portion of the rent. The lines of union would then be in the shape of the letter T, its cross-piece in the vaginal, and its staff in the median line, and mostly in the cutaneous portion of the perinæum.

In addition to the vaginal suture 6, 2, 4, it is important to pass on either side of it three or four sutures to approximate more securely the transverse part of the rupture. These, having their points of entrance and exit in the vagina, would be difficult to remove until two or three weeks after operation, and should, therefore, be of catgut or carbolized silk instead of silver wire.

Uniform success further depends upon attention to certain details, which are here mentioned, with no claim to originality, but for the purpose of urging their importance. All shreds should be detached by scissors before closure, as they may, by sloughing, prevent union. If the lacerated surfaces have been much bruised or ground by the pressure of the child, they may, to advantage, be pared here and there, where the contusions seem greatest, but this will be required very little in the majority of cases. Silver wire has been demonstrated by experience to have great advantage over silk or catgut. It cannot, like the two latter, absorb moisture, and thus become septic and favor suppuration. Number twenty-six is a size well adapted to perineorrhaphy. The sutures should be deeply buried under the torn surfaces, and, if possible, should be visible nowhere between the points of entrance and exit. Suppuration along their track is much more probable if this caution be disregarded. Place the sutures about one-fourth inch apart, but care should be taken to twist them tightly enough only to bring the opposing surfaces into contact. The subsequent swelling will create sufficient tension. While the sutures are being secured, it is well to have the patient on a bed-pan, and the surfaces constantly irrigated with water from the fountain syringe, for the purpose of washing away all blood adhering to the wound. Solutions of carbolic acid over one per cent. are said to prevent union. Twisting the wires, as described by Emmett, has seemed to the writer much better than shotting them. The quill suture is clearly impossible where a part of them must have their points of entrance and exit inside the vagina. Occasionally superficial sutures will be needed, but they should include only the extreme margins of the mucous membrane or skin, their object being simply and only to bring these structures in apposition, so that when the operation is complete, no torn or denuded surface shall be visible, either on the cutaneous or mucous surfaces. Careful attention to these details will, in nearly every case, be followed by satisfactory union by first intention, the exceptions being, in general, those cases in which, from long continued pressure of the child on the perinæum, that organ had become so bruised as to make it incapable of union.

Upon examinations of a number of results thus obtained, several months after the patients had been discharged, the perinæum was found, in each case, to be of normal shape, *i. e.*, solid and triangular, but its volume was often so far below the normal standard that it was incapable of fulfilling perfectly its functions, and there was observed a resulting tendency to cystocele and the consequent uterine displacement from traction produced by the falling of the vaginal walls. This defect in volume may depend upon any one or all of a number of causes.

1. Possibly the restored perinæum may, in a limited number of cases, undergo superinvolution. 2. Evidently the new tissue, of which the line of union is formed, would tend to contract, and with it the perinæum also. Besides, the perinæum is held somewhat compressed during the healing process by the sutures, and this new first intention tissue would tend to tie the organ, as it were, into its compressed shape. 3. Probably, also, in many cases, union in the superficial part of the wound, which is more exposed to the discharges, may, to some extent, be defective. Certain it is, whatever be the cause, that, in my former experience, after involution, the restored perinæum was generally too small.

To obviate this difficulty I have, in a number of cases, recently resorted to a very simple procedure which has uniformly been followed by satisfactory results. The device simply consists of denuding a strip about three-sixteenths of an inch wide all round the torn surfaces. This strip should be a little wider in the vaginal portion of the wound than in the external cutaneous portion. It has the effect of increasing the extent of the surfaces to be united by as much as the width of the denuded strip. In consequence of the early and firm union which takes place between these smoothly denuded surfaces, the weaker union beneath is protected from the injurious influence of the discharges. Clearly, this procedure is essential to a perfect result in multiparæ, whose perineæ have suffered slight lacerations in previous labors. My own experience with it has been so satisfactory that I should not omit it in any case.

NOTE.—Since reading this paper, a remarkable and original communication has been presented by Dr. T. Addis Emmett to the American Gynæcological Society, in which he took the ground that in all ruptures of the perinæum, a successful result depends upon an operation which draws the crest of the posterior vaginal wall forward against the perinæum It is clear that this must be true in all cases of transverse rupture, and if the transverse form of rupture should prove, on further investigation, to be a common form, then a most apparent reason would be furnished for the position taken by Dr. Emmett. I am unable to make a definite statement with reference to the frequency of the transverse rupture, but may say, at least, that it can hardly be very rare, since I have, during the past few months, personally observed five cases, of which three were torn transversely. It may prove to be the more common form of the two.

DISCUSSION.

DR. W. H. WATHEN, of Louisville, said: All leading obstetricians now practice and recommend the immediate union of the lacerated perinæum after the most improved methods of operating, but that Dr. Dudley's practice of further denudation of the vaginal surfaces of the torn edges is generally unnecessary, and complicates the operation, so that the general practitioner, who does most of the obstetric practice, would not perform it. It is true, that by his method, we may get a thicker perineal body, but if the sutures be properly introduced, with no additional denudation, and the after treatment carefully attended to, the united edges will form a perinæum of normal dimensions, and the operation can be performed with no assistants, without an anæsthetic, and nothing is needed but a needle, and silver or silk sutures. Instead of complicating this operation, we should attempt to reduce it to such simplicity that any physician will feel equal to the task of repairing a recently ruptured perinæum, thereby preventing immediate or subsequent disagreeable results. All physicians should examine the perinæum in every labor, and where there is extensive laceration, partial

or complete, should operate at once. Deep lacerations of the perinæum, if not united, will result in subinvolution of the vagina, uterus and its appendages, and is often followed by prolapsus of the uterus and vagina, with cystocele or proctocele. This is especially apt to occur in the laboring classes, and is difficult to relieve, and sometimes cannot be cured.

TINNITUS AURIUM AND VERTIGO AS PROMINENT SYMPTOMS OF LITHÆMIA.

BY GEORGE H. LYMAN, M.D.

[Read before the Section for Clinical Medicine, Pathology and Hygiene of the Suffolk District Medical Society, November 14, 1883.]

There is, perhaps, no class of patients coming under a physician's observation, which are more troublesome than those cases of gastric and hepatic derangement due to the lithic acid diathesis, so-called. The functional disturbances are so associated with nervous phenomena, as to render the sufferer impatient and intractable, skeptical of your assertion that he has no serious organic disease, and ready to try every nostrum and accept every diagnosis but the true one from the numerous professional and lay friends whose sympathy he seeks.

Although lithæmia, lithuria, lithiasis, etc., have now become tolerably familiar terms to the profession, the whole subject still remains more or less obscure, especially the subjective semiology and the relative importance of the renal and hepatic pathology. The true nature of the affection often escapes recognition by the medical adviser until some case presents itself which cannot be ignored, when he is forced to closer inquiry into the antecedents and a more rigid analysis of the symptoms. He then discovers that he has to deal with something more than a mere gastric derangement, indigestion, dyspepsia, or what not, vague terms with which he has temporarily satisfied his own conscience and his patient's importunities; his blue pill and pepsin, his alkalies and sedatives, either separately or in some incongruous combination, have generally been a lamentable failure. In mild cases, to be sure, the mark is occasionally hit by some snap shot; but when the patient, superadded to his other grievances, has an incessant tinnitus, he loses faith in the stomach doctrine, or if his memory begins to suffer, or he has occasional attacks of vertigo, so sudden and severe as to make him unwilling to trust himself alone in the street, what wonder that he should seek other and special skill in brain, heart, eye or ear, to the great discredit of the general practitioner; for though he may get no more relief by the change, his subjective symptoms get more direct attention, and he, at any rate, is for the time being satisfied that merely local treatment is exactly what he needs.

While the first of the following cases was under observation, the admirable article of Dr. DaCosta appeared in the October number of the *American Journal of Medical Sciences* for 1881, in which these nervous phenomena especially are brought more prominently forward than in the famous Croonian Lectures of Dr. Murchison, which have done so much, by stimulating inquiry, to develop our knowledge of these lithæmic conditions. Although I cannot hope to add anything to the value of Dr. DaCosta's paper, possibly some allusion to a series of my own cases may be of interest to others.

The disorder in question has no fixed set of symptoms. The subjective expression of the pathological condition may manifest itself in protean forms. Either the gastric, rheumatic, renal, hepatic, cerebral, or cardiac, or several of them combined, may seem to predominate in any particular case, yet each is dependent in great measure upon certain lithuric conditions, which, being neglected, render any treatment unsatisfactory, if not wholly useless. There is necessarily neither nausea, constipation nor diarrhœa; headache, insomnia, or palpitations, myalgic pains, or urinary deposits, all in any given case. The subject of it, indeed, is quite likely to express himself as being otherwise in good health and strength, vigorous in mind and body, and yet so tormented at times, and apparently without cause, with one or more of the functional nervous phenomena described, as to induce in him the fear of some fatal organic defect of heart or brain.

Of the varied symptoms none are more distressing than the two which are the more immediate subject of this paper: A constant tinnitus aurium from which there is no escape during the waking hours, and which indeed often interferes with the sleep—buzzing, ringing, clicking or constant pulsation, for which no visible or tangible cause can be discovered either in gastric disorder or the external and internal auditory apparatus—is not only a constant source of annoyance but of serious apprehension to its unfortunate possessor; or still more if, either with or without this tinnitus, the victim finds himself the subject of sudden attacks of vertigo, so severe and decided as to cause a staggering gait, possibly complete prostration, as in an attack of epilepsy, the case assumes a gravity which startles and terrifies its subject into fear of impending death.

In one case a young, active business man, apparently in vigorous health, in addition to some of these symptoms, finds his memory failing to such a degree as to impair business efficiency; he can not recall the prices of his goods, the daily changes in stocks, etc., and fancies that he is threatened with paralysis, brain softening, or some dire evil which is to bring ruin upon him.

Another will have renal complications dependent wholly upon some hepatic derangement of function which sends him from one physician to another in the hope of relief to his fear of Bright's disease, diabetes, or cystic calculus, while still another may be complicated solely with tormenting muscular or arthritic pains. And so on one might recall instances of one more of these with the addition of purely nervous complications, simulating to the fears of the patient almost every conceivable organic disease.

The first of the ensuing cases only is given in some detail, it being a striking instance of the disorder, and one which, with its coincident organic cardiac complication, might well have caused much concern to both physician and patient, but which, when its true na-

ture was appreciated, proved to be susceptible of prompt and effectual relief.

Dr. ——, who had been in active practice for twenty-five years, about 1871 was attacked suddenly, after a moderate lunch, with vertigo so decided as to necessitate the recumbent posture, and cause great alarm to his family. There was no actual syncope, but a distressing sense of faintness, from which, however, he recovered in a few minutes; there was neither nausea, palpitation, nor headache. The attack was at the time attributed to lager beer, not very fresh, taken with the lunch. In early life, while a medical student, he had suffered from a bad attack of endocarditis, entailing mitral disease, during the course of a severe rheumatic fever. Three or four years later he had a second rheumatic seizure, very severe, and lasting, with little intermission, for six weeks, but without any additional cardiac complication. Since these attacks, any unusual exertion has inevitably induced palpitations and dyspnœa, but with the precautions which his professional knowledge indicated, these attacks were infrequent, giving but little trouble and no apprehension. At about the period of the first vertiginous seizure he began to be troubled wth tinnitus, but at rare intervals, and coincident with catarrhal attacks, nasal and faucial. For a time this attracted little attention, but subsequently became more frequent and annoying, until, at the end of some years, the tinnitus became almost constant through the day, and at night was frequently so annoying as seriously to interfere with sleep. Consulting his friends specially skilled in aural affections, it was by all agreed that the cause must be attributed to an extension of the catarrhal congestion to the middle ear, with fibroid thickening of the canal, and that, in view of its long duration, little encouragement could be given for its permanent relief. The verdict was, perforce, accepted, and for years the continued singing was endured, with such philosophy as could be mustered, though occasionally the pulsations would become so aggravated as to be almost unendurable. From 1871 to 1879 occasional attacks of vertigo occurred, but generally late in the evening, and after days of unusual fatigue. These were always temporarily relieved by a dram or two of any mild stimulant. The attacks were at one time thought to be possibly due to his habit of smoking, but no direct relation could ever be traced. In 1879, when leaving the water-closet one morning, a sudden and severe attack occurred, with distressing faintness and prostration, though the pulse was of good strength, and there was no palpitation. Some time elapsed before he was able to leave the the floor for a couch, and subsequently to resume his daily work, in the pursuit of which he now, for the first time, noticed that his gait was uncertain. For the ensuing two years there were no more, or only very slight, attacks of vertigo, but the sense of inability to walk straight was more or less manifest, and at times to so great a degree as to make him fear the charge of intoxication. The staggering could only be overcome by stopping, sitting down, or grasping the first tree or fence for a few minutes.

Finally, in October, 1881, when apparently perfectly well, there being neither gastric nor cardiac symptoms, a very sudden and severe attack of vertigo occurred while walking through a hospital ward, and a chair at hand alone prevented his falling. The faintness was relieved by a swallow of brandy, and the visit finished without difficulty.

Matters had now assumed so grave an aspect that he began seriously to study his own case, as he would have been compelled to do in the case of any other patient. First, the condition of the heart was investigated as a possible cause, but competent examination revealed no increase of the old mitral disease, no evidence of fatty degeneration, the pulse in fullness, frequency, and rhythm normal, neither palpitations nor dyspnœa. No evidence whatever of any organic cerebral disorder. The renal function was apparently perfect; the urine of proper specific gravity, and normal in quantity, although there was a tendency to abnormal acidity. In the absence of any deposit or other symptoms the urine was only roughly tested at any time; unfortunately no accurate analysis was ever made. The digestion was vigorous; the bowels, as always during life, regular, with exceptions noted hereafter. I should now state that since the two rheumatic seizures in early life, above mentioned, he has been subject to frequent attacks of pain and swelling in the small joints of the hands and toes, more especially the former, and also to myalgia in shoulders, loins and hips. These have never been accompanied by fever nor by any severe disturbance of the general health, but always by extreme irritability, nervousness and impatience, with more or less torpor of the bowels. The appetite, even in the worst of these, was always good, too good. These attacks were usually directly traceable to indulgence in certain articles of food or drink, and never found susceptible of mitigation by drugs of any kind until these special things were omitted for a time. Half a bottle of claret or burgundy, for instance, would almost certainly induce redness, swelling and pain in the knuckles, sometimes on a single trial, more often at the end of a few days; strawberries always, and most other fruits if eaten after meridian; malt liquors of any kind if used continuously; while, on the other hand, the moderate long-continued use of brandy, whiskey, thin, dry sherry, or dry champagne agreed perfectly if taken in moderation with dinner.

The sharp gouty pains and enlargement and redness of the smaller joints, in connection with the nervous irritability, suggested of course, the lithic acid diathesis, and careful continued observation proved a direct connection between the exacerbations and increased tinnitus and vertigo.

A more careful course of diet was at once instituted. The amount of nitrogenous and carbonaceous food was greatly reduced, and all stimulants, and malt liquors, always in daily, but never in excessive, use, were discarded entirely. As medicines, a full dose of citrate of lithia was given before each meal, and an active dose of bitter water on rising each morning, the latter producing one *full* liquid evacuation daily. The effect of this course was very decided. It was continued with hardly an intermission for four months, though on several occasions, when too much animal

food or a glass or two of claret, sherry, or madeira were indulged in, the warnings were unmistakable. At the end of this period the the tinnitus was hardly noticeable, the vertigo entirely gone, and the gouty pains a thing of the past. For the past year his health has been more vigorous than ever, but only at the price of constant watchfulness, for any attempt at the indulgences of the table, either at once or with the lapse of two or three days, brings its penalty in arthritic pain, tinnitus, or vertigo, one or all.

The only wines that seem to cause no trouble are a thin table sherry and dry champagne. Better than either is a tablespoonful of brandy with dinner, which seems to be not only harmless but a positive benefit.

I make no apology for giving this case at some length, as I consider it to be a good illustration of a certain class of lithæmic cases, and typical of the nervous and gouty complications, while remarkably free from those renal and gastric symptoms which more generally accompany and obscure the diagnosis; for, as will be noticed, there were none of the ordinary symptoms to call attention to what was undoubtedly the true source of the difficulty, the imperfect assimilation of the ingesta. That vertigo and tinnitus, as well as other obscure and intractable complaints, especially those of the skin and mucous membranes, may often be traced to this so-called lithuric condition, whether it be designated as lithæmia or suppressed gout, there can be no doubt. I could give from my notes many other cases in which relief from distressing symptoms of long duration, and where the sufferers had become almost hopeless of relief, would be shown, but the narration would serve no other purpose than to lengthen this already tedious paper if given in detail. I will merely allude to a few of them as showing some of the common differences in type.

I. The son of a physician; married; aged 46; a high liver, had for three years been subject to these nervous symptoms. In this case, renal congestion was so marked a feature as to cause apprehension of some organic disease of the kidneys. Under proper treatment, the functions of the liver were restored, the nervous and renal symptoms disappeared, and he regained, and so far as I know is still in comparatively vigorous health.

II. A perfectly temperate man, aged 56, was for two years subject to vertigo. He had also muscular debility, nausea, and some anasarca. Under careful regulation of the diet, free action of the bowels, nitromuriatic acid, etc., the vertigo and muscular weakness disappeared, and his apprehensions with them.

III. A lady of middle age, with some suspicious renal symptoms, headache, nausea, œdema, etc., was under my care at intervals for two years. Early in 1882, though much improved in many respects, the nausea especially having nearly disappeared, she consulted me again for frequent and painful micturition and incessant tinnitus aurium. By the use of lithates, iron and aloes, bitter water, with whiskey and cream and a restricted diet, she obtained relief from all the nervous complications.

IV. A well-nourished and apparently vigorous man of 32, in active mercantile life, complained bitterly of seminal emissions and loss of venereal appetite, but chiefly of a constant sense of cerebral confusion, with loss of memory, at times so absolute that he could not remember the prices of his merchandise or make simple arithmetical calculations. He was married, and of steady habits, excepting that his meals were irregular and hastily eaten. He suffered to a slight degree from hæmorrhoids and headache. The emissions proved to be trifling and distinctly prostatic, not seminal. Being an excessive smoker, tobacco was strictly forbidden, and with proper regulation of the quantity and quality of his diet, and the use of saline laxatives and mineral tonics, the unpleasant cerebral phenomena were relieved entirely and permanently, a year having now elapsed without any recurrence.

V. While writing this paper a somewhat similar case occurs to me, not of vertigo, but of most unpleasant cerebral confusion, occasional attacks of distressing tinnitus, with muscular pains, tenderness and swelling of the small joints, and an increased renal secretion, with painful micturition. There has also been on several occasions a decided loss of power in the extensors of the forearm. The patient has been under my charge at intervals for ten years, and has had repeated recoveries from and recurrences of these symptoms, and will probably continue to have them to the end, for being of ample means and extremely indolent habits, the requisite perseverance in treatment is not attainable. It is sufficient to say that the tinnitus and other symptoms in her case always and readily yield to the treatment indicated so long as it is persevered in.

VI. I will allude to but one more. An old gentleman past seventy, has been for many years a notable specimen of the hypochondriac. He has, however, certain difficulties that are not imaginary, especially prostatic enlargement in an aggravated degree. He has for years suffered from tinnitus, slight vertigo, palpitations, and an aggravated catarrh of all the mucus membranes from the alæ nasi to the pylorus. He was under my care a year or two before I could get him under decent control. He was depressed, skeptical, sure that he was to lose his mind or die suddenly of apoplexy or heart disease, would follow a prescription for a day and then seek another; buy every quack medicine that was recommended (and serve it, fortunately, in the same way) until finally, under the threat that I could or would do no more, a promise of obedience was exacted and tolerably kept, until now, under comparatively simple treatment, life is no longer a burden to him or his friends, the tinnitus and vertigo, the catarrhal troubles and cardiac irregularities being immensely relieved.

The object of this paper is to call attention to those lithæmic cases in which tinnitus and vertigo are prominent symptoms, they being the most alarming and distressing to the patient of the nervous phenomena induced by an excess of lithic acid in the blood.

Many cases of tinnitus, no doubt, are very temporary, such, for instance, as are caused by slight gastric derangement, an excess of ceruminous deposit local congestions, etc., while other and incurable

cases are due to actual organic changes in the auditory apparatus, and the same remark will apply to many cases of vertigo, whether from an acid stomach or actual fatty degeneration of the circulatory apparatus; but, other than these, I can recall many instances occurring in former years, where not suspecting what I now believe to have been the true cause, I was unable to afford that relief which I am now confident would have followed a more accurate diagnosis.

How, in deranged function of the liver, imperfect disintegration and oxidation of the albuminoids results in the excess of lithic acid in the blood, is a physiological problem, for the discussion of which I must refer to Flint, Draper, Bence Jones, Fothergill, Charcot, Murchison, and many others. The opinions of writers and experimenters are as yet quite at variance upon many points. A few remarks only are needed in this connection for the purposes of this paper.

And first, it is not sufficient to say that tinnitus is due to deranged circulation or irregular muscular action, for though both are probably true, what causes those derangements; and so of vertigo. We must go farther back, and find what causes are at work in the blood to influence the vaso-motor and trophic processes. An embolus in the middle cerebral we say results in aphasia, but we mean that aphasia is due to deficient nutrition in the brain cells.

That an excess of nitrogenous and carbonaceous foods, or, there being no excess, a relative deficiency of oxygen, results in imperfect oxidation, seems probable. Were the oxidation complete, instead of insoluble lithic acid we should get soluble urea for normal elimination by the kidneys.

On the other hand, we have the opposite view that an undue prominence has been given to uric acid in these gouty or lithæmic cases; that the difficulty rests rather with its insolubility than in its excessive production, that it is a consequence rather than a cause, and that the saccharine rather than the nitrogenous elements of the food are the most mischievous.[1] However this may be, the kidneys seem to play an eliminatory role chiefly, although it must be remembered that the necessary excess in activity may lead eventually to chronic congestion and secondary organic changes of structure.

The vaso-motor and trophic influences, the mode of distribution, as well as the nutritive quality of the blood, become also important factors in the production of the cerebral symptoms under discussion. If the blood of the living body should be always alkaline, it is not difficult to see that an abnormal excess of lithic acid would create these vaso-motor or trophic disturbances, one or both, in the circulation and nutrition of the brain and cord, a diminished alkalinity, whether relative or absolute, diminishing the contractility of the heart.

As to treatment, it is already sufficiently indicated, if we accept the theory of the lithæmic origin of the trouble. That the liver may rest from its overcharged labor, saccharine, nitrogenous, and alcoholic ingesta must be diminished, both sedentary habits on the one hand and excessive fatigue on the other, and over cerebral exhaustion from study or worry avoided, they all tending to weaken the circulation, and so favor acid accumulation.

With regard to the use of tonics, mineral or vegetable, they are often worse than useless, especially in the early stage of average cases, in which, with a careful diet, mild saline laxatives perseveringly used are the best tonics. In anæmic or broken-down cases their use may be, of course, a necessity.

In most cases alkaline salts are indispensable, and of these I have found citrate of lithia as useful as any, and perhaps the most agreeable to the stomach, although occasionally it overstimulates the kidney and must be suspended for a time, or replaced by soda or potash, taken an hour after meals, these being in all cases preferable when much flatulence is complained of. Salicylate of lithia I have not yet tried.

Where the pain is myalgic, muriate of ammonia in full doses will often give prompt relief, though if not within a day or two, its continuance is useless. I *have found* no benefit from it in arthritic pain or tenderness. Mercurials, podophyllin, colchium, etc., must, I think, be rarely needed, and are objectionable from their depressing effect. Their influence upon the biliary secretion is at least questionable, and if the small intestines are kept free from biliary accumulation by saline or other laxatives, such as ipecac, rhubarb, and soda, they are not required. If there be any one thing which I should lay the most stress upon throughout the treatment it would be the use of aperient bitter waters. Nothing proves so promptly effectual in removing those exacerbations of arthritic tenderness, vertigo, and tinnitus, which the most tractable patient will occasionally bring upon himself by some indiscretion, as an extra dose of Hunyadi or Pullna water taken for a day or two in the morning fasting. By an extra dose I mean a larger and more active one, for I would have a smaller dose of the same used almost continuously and for months after the cessation of the urgent symptoms. These waters keep the small intestines free, and the sulphates of soda and magnesia with which *they* are highly charged have a cholagogue influence which goes for something. Their influence as combined in these waters is decidedly more satisfactory than when taken alone. The Carlsbad or *Sprudel* salts may also be mentioned in this connection, especially as they have been recently discovered to contain lithia, which the others do not.

The aggravated catarrhal complications may now and then require especial treatment, but in a large proportion of cases the troublesome nasal and faucial congestion will be found to yield with the lithæmia on which it depends.

As to the use of stimulants, most patients are probably better for entire abstinence, but in a certain class such abstinence can be with difficulty enforced. I know of no rule by which one can be guided but the experience of the patient himself. As a rule., of the light wines, the driest are the best. One will drink claret with impunity, while to others it is an undoubted poison, and the same may be said of champagne, burgundy, hock, etc. Climate, and especially hygrometric conditions, become here, I be-

[1] See Ralfe on Morbid Urine, pages 65–98.

lieve, an important factor. It is now a well-known fact that a patient will indulge with impunity in England or on the Continent in beverages both in quantity and in quality which, in our drier climate, cannot be assimilated. The first case reported was a striking instance of this, as was proved by his experience in repeated visits abroad.

In certain cases, stimulants with iron or bark and acids may, as I have said, become a necessity, especially if the alkaline treatment induces any marked impoverishment of the blood, for in all cases a lowering treatment is to be avoided. It must not be forgotten that one's living may be generous without being excessive in either food or drinks.

The patient should always be made to nnderstand that the relief which he may receive is to be permanent only so long as the conditions of the cure are complied with; and that any indulgence or excess will almost inevitably be followed by its penalty, and moreover, remembering that too frequent recurrences of merely functional disorder are likely to result eventually in actual organic changes, no longer amenable to curative treatment.

In conclusion, I may be permitted to say that while the pathology of these affections remains, as at present, an open question with different observers, the successful treatment of a series of cases may help materially in its solution. Where medical Science is defective, medical Art may assist in placing it upon a right foundation.

RECENT VIEWS RESPECTING THE DIAGNOSIS AND TREATMENT OF LITHÆMIA.

BY JAMES J. PUTNAM, M.D.

(Read before the Section for Clinical Medicine, Pathology, and Hygiene of the Suffolk District Medical Society, November, 14, 1883.

It is well known that a tendency has been manifest of late among medical men in this country, as for a long time past in England, to diagnosticate as suppressed gout, or lithæmia, cases presenting a great variety of nervous symptoms, often anomalous and distressing in character, generally occurring in patients of gouty, but sometimes even in those of non-gouty descent.

This tendency has been met in many quarters with incredulity, and some men of conservative temperament would be well content to let the matter slip by with a verdict of non-proven. Where no overt gout exists it is gratuitous to assume suppressed gout, they say, and the argument seems applicable to this country and generation, in which overt gout is so rare. Such an attitude seems to me to involve the disregard of clinical facts of manifest importance, yet I admit that even this is better than to abandon one's adherence to the laws of evidence for the sake of a plausible hypothesis. It is evident that there is a middle ground to be discovered, and it is important, in the interests of practice as well as theory, that its limits should be defined as accurately as possible.

Two questions naturally suggest themselves for solution in this connection; first, what are the ascertained facts in the matter; second, what are the inferences which involve the least infraction of sound reasoning.

The conclusions which seem to me the best established are:—

(1.) That various nervous symptoms, and symptom-groups, (as well as certain affections of the skin and mucous membranes) may be due to disorders of nutrition of the body at large, and are best treated from that stand-point.

(2.) That, however, it has not been shown, nor rendered especially probable, that these symptoms are apt to be due to an excess of uric acid in the blood, except in so far as they occur in true gout.

(3.) That the effects of treatment in cases of so-called lithæmia are not such as to lend much support to the belief that it is a specific disease.

(4.) That there is abundant justification by analogy for the view that the impaired health found in the families of gouty persons need not itself be of a gouty nature.

(5) That most, if not all, of the so-called lithæmic spmptoms may and often do originate in a primary disorder of the nervous system (including true neurasthenia).

It will be worth while, to begin with, to glance briefly at the few advances which have been made in the pathology of true gout during the past few years.

It is well known that the one discovery bearing on this subject which has been able to maintain itself, almost unassailed, is that announced by Garrod in 1848, that the blood of gouty patients contains uric acid.

The explanations by which he proposed to account for the outbreaks of the disease, namely, that diminished excretory power of the kidneys caused a further accumulation of the uric acid in the blood, and that diminished alkalinity of the blood caused the precipitation of urate of soda in the tissues, have not fully stood the test of criticism. They remain as unproved, indeed as improbable, though noteworthy speculations.

It is, however, worth bearing in mind that diminished alkalinity of the blood, such as is supposed to arise from dyspepsia with constant formation of acid products in the intestinal tracts, though it may not cause gout or lithæmia, has been regarded as accounting for a variety of nervous symptoms such as are usually attributed to suppressed gout. This is a view taken for example by Dr. Ralfe, in his interesting little book on Morbid Urine.

Garrod's original researches left the origin of the uric acid unknown, though he believed that the kidneys themselves should be exonerated.

In 1874 Murchison delivered his able and suggestive Croonian Lectures on Functional Diseases of the Liver, and then first proposed, I believe, the term *lithæmia*. Murchison's aim was to show that, among its other important functions, the liver was the great laboratory for the conversion of nitrogenous compounds into urea, and inasmuch as uric acid resembles urea except in containing less oxygen, and may even be converted into urea, it was maintained that uric acid was one of the suboxidation products of albumenmetabolism, and that the liver might be consid-

ered responsible for all the range of diseases, from chronic bronchitis and dyspepsia to gout and chronic Bright's disease, which could be laid to the door of the baneful uric acid and its congeners in the blood.

The liver is still admitted to be the seat of much chemical change, and the efforts of Murchison no doubt did much to clear its somewhat rusty clinical reputation, and to call general attention to its important functions and diseases. Yet, in spite of the guarded support of Charcot a few years later, Murchison's theory of hepatic lithæmia has not taken the place in pathology which its author claimed for it. The suboxidation part of it, which is for us the important portion, deserves special consideration, since it concerns the doctrines of the treatment of gout as well as of its pathology.

It is now almost universally regarded as probable that in health uric acid and urea are parallel and normal products of albuminous disintegration, and not simply representatives of different states in one process.[1]

Increasing the oxygen supply makes no difference in the oxidation of uric acid. The amount of oxygen in the blood does not in fact determine the amount of chemical change in the body, but is determined by it, the oxygen being called in only to repair the waste already caused.[2] The oxidation of nitrogenous compounds is a function of the tissues, and its activity is measured by the number and efficiency of the cells of which the tissues are composed. The oxygen by which this is accomplished is stored up in the tissues. The oxygen in the blood serves to feed this reservoir, but to this end there is always enough unless the blood is actually starved, as in asphyxia.[3] Similarly, the reason why carbonaceous food is not good for gouty persons (when such is the case), is not because it attracts the oxygen which would have gone to complete the oxidation of the albumen, but for more complex reasons (v. Voit.)

Setting aside, however, the special question of the relation of uric acid to urea, it is quite true that the general doctrine that diseases of various kinds (renal among the rest) may arise from the presence in the circulating fluids of the results of imperfect metamorphosis of food, still holds a respected place among pathologists, as an important, although as yet unproved hypothesis. As a practical matter, it is certainly very proper that in any doubtful case we should make every effort to improve the efficiency of the tissues to convert and assimilate food, both directly, by acting on the tissues and the circulation, and indirectly, by modifying the quality and quantity of the food, and there are good clinical reasons for thinking that in that way we shall often succeed in removing obscure nervous symptoms, but this admission is by no means equivalent to the adoption of the prevailing theory of lithæmia.

Within the past year, our knowledge of the gouty processes has been enriched by two important investigations, carried on respectively by Garrod[4] and by Ebstein,[5] Professor of Clinical Medicine in Gottingen. Garrod's investigations were mainly directed to the question of the relation of the excretion of uric acid to the formation of calculi, but in the course of them he makes some interesting statements about the amount of uric acid excreted by birds, which seem to prove that in them this substance must be formed in the kidney itself; and if in them, he thinks, then in all probability in man also, contrary to his former view. The quantity of this excretion in certain birds is indeed enormons, the daily amount being sometimes more than the whole weight of the kidneys. Knowing the average amount which the blood contains, and calculating the number of times that the kidneys refill themselves with blood in the course of the day, Garrod confidently affirms that they could not in that way obtain a sixth part of the uric acid which they excrete. He claims also to have found that the reason that the urine of herbivorous animals contains no uric acid, is because they form hippuric acid from their food, and affirms that the uric acid excreted by man is greatly diminished, or made to disappear, if benzoic acid, a congener of hippuric acid, is taken by the stomach, a suggestion important for the treatment both of calculus and gravel, and of true lithæmia.

The able investigations by Ebstein are largely experimental in character. He fully indorses the uric acid theory of Garrod, and makes it probable that the uric acid salts, even while still in solution, impair the nutrition of the tissues through which they pass, and if in concentrated solution impair them (as proved to be possible by actual experiment) to such an extent that the life of the tissues is destroyed, and in dying develop an acid reaction which causes the precipitation in them of the urate of soda. To this irritating action of these salts in solution in the blood he thinks the various symptoms referable to affections of the mucous membranes, the nervous system, the walls of the blood-vessels, etc., are due, and in fact he fully gives in his adherence to the doctrine of lithæmia *in the gouty*. The uric acid he believes to be formed not in one alone, but in many organs, among which are to be reckoned (in gout, though not under normal circumstances) the marrow of the bones and the muscles. Ebstein regards gout, therefore, as a disorder of nutrition in consequence of which uric acid is formed abnormally in the bones and muscles. He considers it analogous to cystinuria, or to diabetes, but does not recognize the agency of any underlying neurosis which various writers, especially Dr. Duckworth, have assumed. He extends widely the role played by uric acid, about as widely, in fact, as any of the English writers, but would say, that without uric acid no gout. At the same time he thinks that this excessive production of uric acid may remain through life without causing symptoms of any kind, if no exciting cause comes in to provoke them.

The arguments by which Dr. Duckworth[6] who is able to array a number of the highest authorities on his side, endeavors to prove gout to be at bottom a

[1] Vide for ex. Cohnheim's Handbuch des allgem, Pathologie.
[2] Voit. Die Ernährung, Hermann's Handbuch, p. 279.
[3] Voit. Senator.
[4] *Lancet*, 1883, Vol. I.
[5] Natur u. Behandl. d. Gicht.
[6] Brain, 1881, and elsewhere.

tropho-neurosis, either primary and inherited, or secondary and induced by blood-poisoning, are ingenious and forcible, but of such a nature that it would be impossible to reproduce them here at length. He thinks that without invoking the periodic action of the nervous system it is impossible to explain the outbreaks of the attack, which come sometimes without apparent cause, usually early in the morning, and are apt to be preceded by a sense of euphoria, such as is sometimes seen before an attack of epilepsy, migraine, and the like; further, that gout evidently stands in a close relationship of mutual dependence and interchangeability with other neuroses, such as epilepsy, hysteria, asthma, migraine, angina pectoris; that the exciting causes of the acute seizures are often such as depress nervous force, like strong mental and moral excitements, venereal excesses, or sudden shock, without, however, acting directly upon the affected joints; and, finally, that the ability of the nervous system to influence nutrition, as seen in the arthritic complications of certain forms of locomotor ataxia and other diseases, is becoming more and more fully recognized.

Let us now turn to a consideration of the doctrine of lithæmia or suppressed gout, taking as representatives of the positive side of the discussion two of its most earnest supporters in this country, Dr. DaCosta,[1] of Philadelphia, and Dr. W. H. Draper, of New York.

Dr. Draper's views were expressed in one of the American Clinical Lectures in 1875, and more recently, in a modified form, in a paper read before the New York Academy of Medicine in February, 1883.[2]

In the latter paper, Dr. Draper refers to the difficulties in the way of the humoral or chemical theory of gout, and admits that it may be primarily a neurosis, and that the over-production of uric acid and its presence in the blood may be only an epi-phenomenon in the disease. His views of the subject of diet have also been modified, but he finds that, in general terms, gouty patients and their descendants have especial difficulty in the digestion of saccharine and farinaceous food. The symptoms described in the first paper as of a lithæmic origin include flatulent and acid dyspepsia, painful and frequent micturition, commonly associated with the presence of uric acid, urates or oxalates in the urine, neuralgic symptoms of unusual type and without tender points, burning sensations in the palms and soles, numbness of the hands and fore-arms, pain in the region of the tendo-Achillis and the dorsum of the foot, hypochondriasis and hysteria, chronic bronchitis, asthma, conjunctivitis, gastro-intestinal catarrh, aphthous ulcerations in the mouth, obstinate eczematous and erythematous lesions of the skin, the latter sometimes showing themselves in sudden swelling of the eyelids, cheeks, lips, and tongue, together with many other symptoms.

Dr. DaCosta lays especial stress upon vertigo, severe acute periodical headaches of neuralgic type, neuralgia, sometimes bilateral, burning pains in the feet and hands, and also gastralgia, cramps in the legs, sleeplessness, irritability, or great depression of spirits, and the like. Other writers have referred to tinnitus aurium, (such as Dr. Lyman has described to-night,) irritability of the bladder, painful menstruation, etc.

In seeking for the pathology of these symptoms, two questions naturally present themselves:

1. What evidence is there of the existence of an excess of uric acid in the blood; a condition which is assumed without argument by DaCosta, and by Draper in the earlier, though not in the later paper?

2. What other signs have we that would justify us in setting apart these cases as belonging in a group by themselves; or as standing in any definite relation to the gouty diathesis?

Of direct evidence by examinations of the blood, none, so far as I can learn, has been furnished (though Garrod speaks of its great desirability), except that Draper found an excess of uric acid in a case of gonorrhœal rheumatism which he believed to be of gouty origin. Ball (quoted by Charcot in Diseases of the Liver) found uric acid, to be sure, in the blood of a patient suffering from gravel, an observation to which we shall refer again further on. The only indirect evidence that is offered of the presence of uric acid in the blood consists in the more or less persistent presence in the urine of free uric acid or its salts. This was noted in almost all of DaCosta's cases, and he dwells upon it at some length.

What is the real significance of this sign? Chemically, it certainly indicates nothing more than increased acidity or condensation of the urine, no matter from what cause, which facilitates a precipitation of the uric acid and urates. A real and persistent increase of the total amount of uric acid is very exceptional, and would usually indicate, according to Ralfe, some serious organic or constitutional disorder, such as organic disease of the liver or spleen, phthisis, or cancer. It is not even a regular accompaniment of true gout.

From the clinical standpoint, the matter is not quite so simple. So good an observer as Garrod finds from analysis of his numerous cases, that gravel and calculus are more prevalent among the descendants of the gouty than among those of the non-gouty, although the gouty patients themselves do not often pass calculi.

The same view is taken by most other writers.[1] The observation of Ball has already been quoted. Charcot (Diseases of the Liver) refers to the observations of Rayer as pointing in the same direction, but says that he has himself several times examined the blood and serum from blisters of patients habitually passing uric acid crystals or concretions without finding a trace of uric acid. On the whole, in spite of the mysterious but accepted relationship between gout and gravel, it is impossible to read at all extensively the views of the best authorities without becoming convinced of two facts: First, that to draw any inference from the precipitation of uric acid and urates in the urine, this must be proved to be really habitual, and not to be accounted for by concentration of the urine due to ingestion of too little fluid, or to temporary indigestion; and second, that even when this

[1] *American Journal of Medical Sciences*, 1881.
[2] *New York Record*, February 24.

[1] Vide Nouveau Dict. de Med. et Chir. art. Gravelle; where this whole question is treated with much fairness.

is not the case the most that we can say is that we have evidence of a disorder of nutrition which is sometimes associated with lithæmia.

I have in my mind a large family of persons who are, or have been almost all, sufferers from functional nervous disorders, such as insomnia, visceral neuralgias, mental depression, irregularity of the heart, etc. One of them has had what was perhaps gout, though that disease is not known to have been inherited. One member passes uric acid at long intervals for some days at a time, but the one who is the most free from morbid symptoms, and usually in good health, passes urine which habitually deposits urates in considerable quantity.

To turn to the second question, Do the symptoms in the cases that have been called lithæmia present anything really characteristic, we will not say of lithæmia, but of any classifiable condition, and especially of one related in any way to gout?

There is some reason, no doubt, to think that this is the case.

The burning palms and soles, the anomalous and sometimes bilateral neuralgias, the gastralgia and marked tendency to catarrh of the mucous membranes, and other symptoms are said to be frequently met with, both in cases of true gout, and on the other hand in cases of another class, the limits of which we are trying to define. This class is believed by excellent observers to be very largely recruited from the families of gouty patients. Two considerations are, however, especially to be borne in mind:

(1.) That we are only just beginning to learn the range of symptoms due to functional disorders of the nervous system from causes arising within itself or from simple insufficiency of nourishment (so-called neurasthenia).

(2.) That it is by no means certain that even in true gout, all the symptoms referred to are due to the uric acid in the blood, since many of them may occur, as is pointed out by Ralfe, under any circumstances, such as scurvy, where the relative acidity of the blood is increased in consequence of the quality of the food (withdrawal of alkaline bases, etc.), or in disorders of the digestion, some of these latter being at times dependent on syphilis or other constitutional diseases.

To return to the first consideration, it is difficult to see why we should, in the interests of lithæmia, dispossess the doctrine of primary neurasthenia of its just claims. There seems no reason why a person should not acquire or inherit, perhaps from a gouty parent, a poorly-working nervous system, and this seems often to happen, since the symptoms referred to may be present without there being any sign in the history of the patient or the condition of the urine to suggest a gouty origin. And if the the nervous system can suffer upon its own account, the burden of proof surely rests with those who would refer the results actually observed to the immediate influence of poisoned blood. Whether or not lithæmia is inherited from gouty parents, however, it appears certain that such persons are apt to exhibit themselves, and to transmit to their descendants strongly marked neuroses, both general and special.

Finally, how far is it possible to judge from the effects of treatment whether the blood is lithæmic, or whether a given set of symptoms are related to true gout? First, we must decide in what the appropriate treatment of true gout consists. Is there anything about it which can be called specific? Some years ago this question would, no doubt, have been answered in the affirmative, but the notions with regard to the treatment of gout have, of late, undergone a considerable change. It has long been known, and the point has been dwelt upon anew at some length by Garrod in his recent paper, that the excretion of uric acid is very little affected by an increase or diminution of albuminous food, and Garrod distinctly states that he believes patients to have suffered in their health from the scanty diet of former times. Dr. Draper, as well as most other writers, now believe that nitrogenous food may be taken pretty freely. It is the hydrocarbons of the food, the sugar and the starch, which are now considered the objectionable portions, but it is very interesting to see the different grounds on which this opinion is maintained. Thus Ralfe, believing that gout is a disease of too great acidity, and analogous to scurvy and rheumatism, thinks the sugar is converted in the intestinal canal to lactic acid, and eventually in the blood to carbonic acid, and that the alkalinity of the fluid is thereby reduced.

Dr. Draper finds that gouty patients, as a rule, cannot digest sugar or starch easily, and that as a clinical fact these substances do not agree with them, and should be interdicted. Ebstein thinks them objectionable solely because they increase the corpulence of the patients, and thereby indirectly predispose to gout in various ways; an idea which is upheld by some observations in a different field by Frænkel,[1] namely, that corpulent persons are more likely to suffer from enlargement of the heart through interference with the abdominal circulation. Garrod believes himself to have discovered that it is not sugar in its natural state, but only in a partially fermented state, as in beer, wines, certain fruits, and the like, that is objectionable, perhaps from giving rise to some injurious ferment.

Again, apart from gouty tendencies, there are stomachs enough to whom sugar and starch are not indifferent, and it is evident that more extended observations are needed before we can admit that the ability to digest and assimilate hydrocarbonaceous food is enough to distinguish between the possessor of the gouty taint and dyspeptics of other kinds. This does not, of course, interfere with the fact that the observations of Dr. Draper and others tending to show that there is a large class of nervous dyspeptics for whom sugar and starch are inadmissible are, if confirmed, of the highest practical importance.

The truth probably is, that the nutrition of patients of this class of so-called lithæmics (in reality perhaps not lithæmic at all) has to be carefully watched, and adjusted to the case in hand.

For my own part, I am inclined to think with

[1] *Zeitschrift der klin. Med.*, 4ter Band

Ralfe, that over-feeding, combined with freedom from excitement and care, is often for a time a better plan even than underfeeding or moderate, with exercise; while the combination of over-feeding and nervous excitement is, perhaps, an especially unfortunate one. Certainly, among the multitudes of neurasthenic patients who have improved, temporarily or permanently, under Dr. Weir Mitchell's treatment of over-feeding, with rest in bed, there must have been many of the so-called lithæmic class, if this class is anything like so numerous as is believed.

To conclude, I would express as my provisional opinion that the interests of medical progress would be best served if we avoided for the present the term lithæmia altogether, studying on the one hand, as if *de novo*, the causes which lead to a precipitation of urates in the urine, and observing, on the other, to see whether the nervous symptoms, the dyspepsia, etc., occurring in the descendants of gouty patients, are essentially different from the neurasthenias and dyspepsias in patients who cannot be suspected of the gouty taint. At the same time, whether their explanations are right or wrong, the extremely important service which such observers as Murchison, DaCosta, Draper, and others have done in showing that some close connection exists between disorders of general nutrition and a great variety of symptoms which had hitherto been studied too much in detail alone, is worthy of the fullest recognition.

PERITYPHLITIS.

BY J. W. COWDEN, M.D., ROCK ISLAND, ILL.

[Read before the Iowa and Illinois Central District Medical Association, October 9, 1883.]

Mrs McF., a resident of Rock Island, Ill., born in Wales; 35 years of age; the mother of three children; weight 135 pounds; began complaining of pain in the right iliac fossa in the fall of 1882. Her family physician, Dr. Thomas Galt, diagnosed the case as neuralgia, and gave her prescriptions which he said would remove the trouble. The pain continued throughout the winter, the patient herself during that time being conscious of a swelling or induration on the right side. About the 10th of March, 1883, she was compelled to take to her bed. The doctor, then visiting her from day to day, told her "there might be danger of an abscess," and immediately set in operation vigorous and active measures for "scattering" the tumor. These measures consisted in kneading and rubbing, at the same time using a liniment to assist in the dispersing process, the doctor telling the patient "the tumor could be scattered by persisting in this method of treatment," he himself participating in the work. With the addition of hot fomentations, under the doctor's instructions this plan of treatment was faithfully carried out by the patient's friends until the 24th day of May, when he made his last visit. He then told her "the tumor was scattered; that he was going away for awhile, but would leave medicines to do until his return; that he would expect to find her well by the time he got back, and that it would not be necessary during his absence to call in another physician."

Three days after the doctor left I was called to see this patient, and found her lying upon her back, the right leg flexed upon the thigh, and the thigh drawn up on the pelvis, in which position she had lain for seven weeks without being able to straighten the limb or to be turned over in the bed. There was a large bed-sore, a most formidable complication, on her back. She was having two or three chills a day, followed by fever and profuse perspiration; pulse 150, and temperature 105°. Had not taken any nourishment for several days. She was so much emaciated that the bones looked to be almost protruding through the skin. I told her husband that she was suffering from perityphlitic abscess, and was then almost in a moribund condition, and without an operation for her speedy relief she must soon die; that in her present exhausted condition the chances were very much against her getting well after the abscess was opened; that she might die, too, during the operation; but as an operation was the only means of relief for her, we must either abandon her to her fate, or, "as a forlorn hope," give her this last chance.

After short deliberation, he told me to operate; but as the doctor in charge of the case three days before I was called had told them all danger had passed and that she was then getting well, I requested that some other physician be called in consultation. In accordance with this request, Dr. S. C. Plummer was sent for. The doctor, on his arrival, fully concurred in my opinion. An ounce of whisky was then given, and in twenty minutes thereafter the doctor administered the ether. I then divided the integument and fascia for about two inches in the direction of and parallel with Poupart's ligament, and proceeded to open the abscess by dividing the superimposed structures upon a grooved director until the transversalis fascia was reached, in which I made an opening sufficiently large to admit the forefinger. The abscess then discharged what was estimated at the time to be about three pints of horribly fœtid pus.

On regaining consciousness, after the ether, she was in a state of extreme collapse, and was taken with violent retching, borborygmus, and occasional vomiting of glairy mucus, so that I was obliged to remain with her for several hours. I administered whisky by the mouth, and gave her morphiæ sulphatis, gr. ss.; whisky ʒi, hypodermically. A mustard sinapism was applied over the epigastrium, and hot applications to the extremities. After several hours of extreme suffering, the retching ceased, reaction came on, and the patient soon expressed herself as being greatly relieved. Her back and hips were then supported by a circular air cushion, which afforded great relief by removing all pressure from the bed-sore. She was then put upon an analeptic and supporting treatment, milk punch was taken freely, milk and eggs beaten together, milk and lime-water, animal broths, and the beef-peptinoids.

The cavity of the abscess was washed out daily for ten days with carbolic acid water, solution 1 to 80, after which it was washed out twice a day with tepid water. A rubber drainage tube was inserted, but after a few days, this becoming intolerable, a horse-hair drainage tube was used in its stead. This seemed

to answer every purpose, the drainage taking place by capillary attraction. This tube was removed twice every day, thoroughly cleansed by washing in carbolic acid water, and again replaced. In about seven weeks from the opening of the abscess all discharge had ceased, the drainage tube could no longer be replaced, the patient, up about her apartments, was improving rapidly, and all the symptoms pointed to a speedy recovery. Some days after this, however, she became restless, her appetite diminished, her wonted cheerfulness gave way to an anxious expression, and she soon began to complain of deep-seated pain in the cæcal region. I then became satisfied that fresh trouble was to be expected, and at once proposed administering ether and re-inserting the drainage tube. To this proposition she would not at first consent, her previous experience with the ether having caused her to believe if she took it again she would die. In a short time, however, she made up her mind to be governed by my advice. She had no fears from the operation; her great dread was the ether. Dr. Plummer not being at hand, at the patient's request, Prof. W. F. Peck, of Davenport, Iowa, was called in. Ether was again administered, and Prof. Peck re-introduced the drainage tube. A small quantity of matter was then discharged, the patient soon regained her appetite, and all the other unpleasant symptoms rapidly passed away. This tube was allowed to remain for three days, when I removed it, cleaned it thoroughly, and again replaced it. It was afterwards taken ont twice daily, the cavity well washed out, and the tube again re-inserted. On the 16th day of August a small fæcal concretion came away, on the 18th two more, after which the discharge soon ceased and the cavity rapidly closed. At this writing, October 4, 1883, the patient has entirely regained her former good health, all trouble in the cæcal region being entirely removed.

Perityphlitis usually consists of a circumscribed inflammation in the connective tissue about the cæcum, its most striking characteristic being a circumscribed swelling, or, rather induration, in the neighborhood of the cæcum, situated above and in close proximity to Poupart's ligament. The tumor, immovable, deep seated, and tender on pressure, may generally be discovered within forty-eight hours after the onset of the disease, by palpation of the right iliac fossæ, or by digital exploration of the rectum. There are cases, however, which are not thus circumscribed, in which perforation of the cæcum, or appendix vermiformis, is rapidly followed by fatal septic-peritonitis. The following symptoms are generally present: abdominal tenderness and pain in the right iliac region, usually occurring suddenly, and attended with the ordinary symptoms of fever which mark the onset of suppurative, phlegmonous inflammation; nausea and vomiting; acute pain and tenderness in the cæcal region; frequent pulse and high temperature, the thermometer, in some cases, reaching 105°. The pathological condition in perityphlitis cannot always be determined; it is the result, in many cases, of a diseased condition of the appendix vermiformis; it is due, in most cases, "to foreign substances, 'usually gall stones,' or fæcal concretions, entering the appendix vermiformis;" in others, "to impaction of fæces in the cæcum;" "it has occurred after unusual muscular exertion;" "it has followed the intestinal lesions occurring in continued fever," whilst, in other cases, no adequate cause could be discovered. The proximate cause of the characteristic induration, however, points to a plastic inflammation of the connective tissue adjacent to the cæcum; this inflammation often following upon a diseased condition of the appendix vermiformis. The large number of cases terminating by resolution, without eventuating in abscess, some as early as the fifth, others at the eighth to the fourteenth day, while others again may go for many months, being, to my mind, at least, confirmatory of some lesion of the appendix. If left to itself, perityphlitic abscess does not always terminate unfavorably; it may open into the bowels, into the bladder, or externally, and the case progress to a favorable termination after that. However, the rule, adopted by Gross, Parker and Sands, for opening the abscess by a free and early external incision, is not invalidated by the occurrence of exceptional cases.

Dr. Henry B. Sands, in a very able article published in the *The Encyclopædic Index of Medicine and Surgery*, reports twenty-six cases of perityphlitis as having fallen under his observation.

"Of these, twenty-two cases were observed in males and four in females. The youngest was nine years of age, and the oldest fifty-four. Of the rest, ten were between ten and twenty; seven between twenty and thirty; two between thirty and forty, and five between forty and fifty."

The doctor makes four divisions of his cases: *First*, ten cases which terminated in resolution, without evidence of suppuration; *second*, three cases of abscess terminating in spontaneous recovery, two of them opening into the bowels and one opening into the bladder; *third*, eleven cases treated by operation; *fourth*, two cases in which the abscess terminated fatally, without discharging its contents.

In the cases treated by operation, "fluctuation occurred in four cases." The date of the operation in one case is not recorded; in the other cases, the abscess was opened in one on the ninth day, two on the twelfth, one on the thirteenth, one on the fifteenth, one on the seventeenth, two on the twenty-first day, and one at the end of the ninth week, respectively. "The last-named case," says Dr. Sands, "in which the operation was so long delayed, terminated fatally by septicæmia. At an earlier stage of the disease, and before fluctuation was evident, I proposed an exploratory incision, but the patient refused to submit to it. When, at last, the abscess pointed over the middle of the crest of the ilium, it had already burrowed extensively and acquired extraordinary dimensions. After being opened it continued to discharge very copiously, and, in spite of the employment of antiseptic injections, septicæmia occurred and carried off the patient. The case is instructive as illustrating the danger of delay, for it is the only one operated upon in which death followed the operation. Had the abscess been opened at an earlier period, a fatal termination would probably have been averted."

"In the early stage of the disease it may be impossible," says Dr. Sands, "to discriminate between the cases that are going to terminate by resolution and those that are to end in suppuration; the latter may usually be distinguished toward the close of the second week by the generally unfavorable condition of the patient, who seems to be growing worse instead of better; whereas, when resolution is about to take place, the later course of the disease is comparatively mild and favorable. In one remarkable case, wherein the affection continued for many months and ended without suppuration, the combination of symptoms was never such as to demand surgical interference, although on two occasions I was nearly persuaded to undertake an exploratory operation."

In all of the eleven cases reported by Doctor Sands, except the first, the abscess was found and opened. "In the one in which the incision was made on the ninth day, no abscess could be discovered, although the knife was carried through the fascia transversalis, and the hypodermic needle thrust in various directions, in the hope of finding pus. After the operation the patient grew worse and his life was despaired of, when, eleven days later, an abscess broke and discharged its contents through the wound. Perhaps, in this instance, the operation was serviceable by dividing dense structures, which might have offered resistance to the progress of matter toward the external surface, but it would, of course, have been more gratifying if an abscess had been reached at once. Usually, a perityphlitic abscess remains of moderate size until about the end of the second week, and by deferring an operation until it is ripe, we shall find the deeper textures consolidated and agglutinated by plastic lymph, and, therefore, less liable to be infiltrated by the fœtid discharges, which, after incision, often cause more or less sloughing of the margins of the wound. On the other hand, the danger that the abscess, if unrelieved, may rupture into the peritoneal sac must not be forgotten. * * * * Doctor Wiener was called to see a gentleman who had been ill for six days with perityphlitis. The characteristic tumor was present in the iliac fossa, and the case being regarded as one of abscess, arrangements were made to open the latter on the following day. During the night, however, in consequence, it is supposed, of some incautious movement made by the patient, rupture into the peritoneum took place, and death ensued ten days afterward. The bursting of the abscess was indicated by a disappearance of the tumor, and by collapse, followed by the usual symptoms of peritonitis. I believe such an event as this is very rare, but the possibility of its occurrence must make us watchful and anxious until the crisis is passed. Everything depends on an exact diagnosis and on an early recognition and treatment of existing abscess, and I would suggest a far more frequent employment of the aspirator, as affording the most reliable test at our command for purposes of diagnosis."

Perityphlitis may occur more than once in the same subject. I find, in the cases reported by Dr. Sands, one patient had a second attack, which terminated by resolution thirteen months after a successful operation for abscess. In another patient there occurred no less than three attacks of perityphlitis within a period of two years, the last one only eventuating in abscess. In another case, an abscess formed two and a half years after an attack, which terminated in resolution. "Such cases should teach us to be guarded in our prognosis respecting the liability of a recurrence of the disease."

"It is generally assumed that when an abscess results from perforation of the appendix, the matter is contained in the peritoneal sac, a portion of which is shut off from the rest by adhesions between the intestines, the parietal peritoneum, or the omentum. * * * * Such a mode of origin is quite exceptional, and when, in consequence of intestinal perforation, fæcal matter escapes directly into the peritoneal cavity, the result is almost invariably a diffused septic inflammation of the peritoneum, ending in speedy death. Pathological anatomy has shown the possibility of another mode of abscess formation, which I believe to be far more common. The vermiform appendix, before becoming perforated, may contract adhesions to the peritoneum lining the iliac fossa, on which it usually rests. Consequently, when the coats of the appendix have been destroyed, the ulceration extends through the opposed layer of the peritoneum in such a manner that the fæcal matters, instead of entering the serous sack, gradually pass into the loose connective tissue which lies outside the peritoneum, and there set up suppurative inflammation. The pus, as it accumulates, may burrow behind the cæcum and ascending colon; or it may descend behind the peritoneum into the pelvis; or, as most often happens, it may occupy more or less completely the iliac fossa. In the latter case, the serous membrane, which is here very loosely adherent to the iliac fascia, will be detached and deflected toward the median line, carrying with it, in the same direction, the cæcum and the small intestine. Here there will be little danger of wounding the peritoneum while opening the abscess, provided the operator avoids the upper and inner margins of the tumor, where the serous membrane forming the boundary of the abscess is reflected upon the anterior abdominal wall. Of course, in the event of an erroneous diagnosis, grave accidents might occur, for an incision which, in the case of an abscess, would simply enter the suppurating cavity, might otherwise penetrate the peritoneal sac, and perhaps also involve the intestine. The aspirator, as has been stated, offers the best safeguard against such a blunder, and should invariably be employed in doubtful cases."

Of the two cases which terminated fatally, "without the abscess discharging its contents either internally or externally," the first "was seen in consultation with Dr. Smith Ely, of Newberg." The patient was a gentleman forty-eight years of age, who, after having suffered for some time with the symptoms of inflammation in the region of the cæcum, was seized with general peritonitis. At the time when he came under my observation, I found the abdomen greatly distended, but could discover no tumor in the iliac fossa, or in the rectum. He declined to submit to the usual exploratory operation, but allowed me

to cut through the skin and the thick, subcutaneous fat, and to insert the needle of a hypodermic syringe into the deeper tissues. This was done with a negative result. Death occurred from peritonitis, and a post-mortem examination revealed an extensive abscess behind the cæcum and ascending colon, reaching as high as the under surface of the liver, and communicating with the intestines through an ulcerated opening in the posterior wall of the cæcum, The abscess was filled with pus and blood, and did not open into the peritoneum. The vermiform appendix was intact." . . . .

"The second patient, a gentleman forty years of age, I saw in consultation with Drs. Rodenstein and Otis. The history of the disease pointed clearly to perityphlitis, but there was no tumor. Digital exploration of the rectum failed to discover any swelling, but detected slight tenderness high up on the right side. On the fourth day the patient became somewhat delirious, and on the sixth day, he had a convulsion. From that time until his death, which took place on the sixteenth day, the symptoms were those of cerebral inflammation, the patient dying comatose. A post-mortem examination discovered the changes in the brain characteristic of purulent meningitis; and the disease, in this case, seemed to be pyæmic, for, on opening the abdomen, an abscess containing eight ounces of fœtid pus was found situated in the lumbar region, behind the cæcum and ascending colon. The abscess communicated with the vermiform appendix, which was the seat of a double perforation. No tumor existed in the iliac fossa. There were no evidences of peritonitis except the presence of some adhesions connected with the appendix. These two cases show that a perityphlitic abscess may be situated altogether behind the colon, and suggest the propriety of inserting an aspirating needle through the posterior wall of the abdomen, when the symptoms of perityphlitis are present without the development of the usual iliac swelling. Should matter be found, it could then be evacuated by an incision like that usually made in the operation of colotomy."

Dr. Thos. F. Rochester, of Buffalo, N. Y., in the thirtieth volume of "Transactions of the American Medical Association," reports a case of perityphlitic abscess discharging into the bladder and rectum, with pathological specimen. The doctor says: "In June, 1875, I was consulted in my office by Michael Hays, 28 years of age. He had a swelling in the right iliac region, tender to the touch, and painful all the time, and especially on motion. It appeared to be deep-seated and circumscribed, not very prominent, and about as large as an orange. Hernia and bubo being excluded, it was a question between iliac or perityphlitic abscess. I called upon him the next day with Prof. J. F. Miner, prepared to make at least an exploratory operation. To our surprise, he informed us that the tumor had subsided, and that he was passing pus and fæcal matter by his urethra. Of this he gave us ocular evidence. As this vent had occurred, it was decided to watch the case. Tonics were prescribed and rest enjoined. He remained under observation for six months, and was able to walk about, and even do light work. In January, 1876, he went to Bellevue Hospital, New York, and consulted Dr. Gouley and others, but received no encouragement to undergo an operative procedure. He returned to his home, and was seen by different physicians. He died September 20, 1878.

"Dr. John Boardman, his last attendant, invited me to a post-mortem examination, which he conducted with great care and skill, and to whom I am indebted for the pathological specimen shown. The body was extremely emaciated. There was no swelling in any part of the abdomen. In the right iliac region the intestines were firmly adherent to each other and adjacent parts. It was difficult to isolate the caput coli. The enlarged appendix was firmly attached to the anterior abdominal wall, and appeared to have emptied itself into an abscess, probably formed by its discharge. The abscess contained about two ounces of fæcal matter and pus, and communicated by a large orifice with the bas-fond of the bladder, and by another with the rectum, which was drawn over to the right iliac region; there was a small channel opening into the caput coli. The abscess had, in fact, four openings, two of ingress and two of egress, and yet so firm were the adhesions surrounding it, that there was no escape of its contents into the peritoneal cavity. It is probable that an early operation would have been successful. It is not impossible that a very late one might have been, even some time after the discharge into the bladder and rectum had taken place. As none of the organs were found diseased, it is probable that the man died from exhaustion; or, possibly, from purulent absorption. He lived for over three years in a most pitiable state, after the abscess had established for itself partial outlets; and from the information obtained by the post-mortem examination, it is much to be regretted that his urgent and repeated appeals for a surgical operation were not complied with."

The doctor reports twenty-three cases of perityphlitic abscess as having occurred in his practice. Most of these terminated fatally; a post-mortem examination was had in every instance. The doctor says: "They have generally been caused by disease and perforation of the appendix vermiformis. It is my belief that, in the great majority of cases, this appendix is in a diseased condition before it receives the foreign body which causes subsequent ulceration and perforation. It is described by Rokitanski as of catarrhal character, causing general enlargement, and dilatation of its orifice and canal. It may become very thick or very thin in its walls. In the latter case it sometimes shrivels and shrinks entirely away. The foreign bodies are usually gall-stones."

I find, in *The College and Clinical Record*, September, 1883, copied from the *Med. and Surg. Rep.*, August, 1883, the following case, reported by Dr. F. M. Brundage, of Coningham, Pa.: "Kate G., aged 70, was attacked in August, 1877, with pain in the right iliac region, and constipation. The cause assigned was excessive indulgence in huckleberries.

"After the symptoms mentioned had continued one week I was summoned, and detected a fluctuating tumor which occupied the entire iliac fossa. In

four days an extensive opening formed in this swelling, and a large quantity of stinking pus and huckleberry seeds was discharged. On the seventh day, the finger was passed into the ilium, through the ilio-cæcal valve, and into the cæcum. Fæcal matter passed daily through the opening until it had nearly healed. Cicatrization was complete in eight weeks from my first visit.

"*Treatment.*—The patient was placed on her back, with the right side somewhat elevated and the right leg flexed. She was fastened in this position by straps. The diet was composed of bread and milk and beef-tea. The fistula was washed with carbolized water several times daily, and was dressed with charcoal poultice. The rectum was evacuated daily by the finger.

"After enjoying good health for five years from the date of my attendance (with the exception of a hernia in the neighborhood of the cicatrix, which formed in about one year), Mrs. G. succumbed to an attack of cholera morbus."

Considering the frequency of perityphlitis and the meager account of its different phases in our standard text-books upon the subject, together with the fact that many cases are overlooked or not properly understood by the busy practioner, I have, therefore, in order to present the subject comprehensibly under the present state of medical knowledge, quoted largely from the foregoing papers without fear of trespassing upon the time and patience of the reader.

Although I had not seen Dr. Sands' article at the time I operated upon my patient, yet the operation was performed essentially in the manner as recommended by Dr. Parker and adopted by Dr. Sands.

I think it advisable, as recommended by Dr. Sands, "to insert the finger after opening the abscess, in order to ascertain the extent of its cavity, and detect, if possible, the presence of foreign bodies or fæcal concretions. These, if found, should be removed in order to avoid future tronble."

MEDICAL PROGRESS.

MEDICINE.

RHEUMATISM.—Under this head the December number of the Proceedings of the Medical Society of the County of Kings has four distinct articles. Dr. Benj. Edson describes a case of the acute form treated by sodium salicylate grs. x every three hours, and relieved in two weeks time. It returned in a sub-acute form, and proved very obstinate, not being relieved by the sodium salicylate. Chorea developed, and the symptoms were finally subdued by ℞. ext. cimicifugæ fl. ʒss., potass. iodidi grs. v, four times a day.

Dr. H. A. Fairbairn reviews the results of treatment of acute rheumatism, taking from the English journals the reports of between four and five hundred cases treated by salicin and salicylate of sodium, all being recorded hospital cases. The conclusions drawn are that they (these drugs) make comfortable an otherwise painful and distressing ordeal; that the duration of the disease, as a rule, is not shortened by it, and the heart not protected; that it fails entirely in some cases. The dose varied from ʒiss to ʒij in divided doses (of sodium salicylate) during the twenty-four hours. By some ℈j doses were given every two hours or hourly, until relief was afforded. Accidents having occurred during its administration, and sudden death having followed, the recognition of the presence of a powerful drug, and the consequent care necessary in its use, would seem to make this last dose a hazardous one. One observer recognizes a distinction between the natural and the artificial salicylic acid; the latter being made from carbolic acid, and likely to contain it in excess, ascribes the depression and other bad symptoms to this cause, the same symptoms would follow the administration of grs. vj of carbolic acid. This observer (Dr. Latham, of England) has given the preparation derived from natural sources in 60, 70, and 110 grain doses, with no unfavorable symptoms except slight cerebral excitement. Dr. Maclagan prefers salicin in ℈i to ℈ij doses hourly for six hours, then every two hours. In two cases given, improvement was marked in twenty-four hours, and the patients convalescent in four days. Salicin is preferred, as not producing depression, and therefore not prolonging convalescence. The drug must be given in large doses, so as to thoroughly saturate the system. The use of methyl salicylic acid, or oil of wintergreen, is reported in ten cases at St. Luke's Hospital, New York, as employed with good results in m. x to m. xv every two hours. Here Dr. Fairbairn makes a point of dwelling on the importance of looking to the activity of the eliminating organs when using such powerful drugs. The blister treatment, applied over the heart and about the joints, has sixty-four cases recorded to its credit as cutting short the fever, relieving pain, and having no heart complications. Dr. Fairbairn found relief given by large doses of the tincture of the chloride of iron, in weak and anæmic cases, where neither the alkaline nor salicylate treatment appeared to do good. Dr. Craig, of Jersey City, reports benefit in forty-eight hours, and a cure in five to six days, from the use of the syrup of hydriodic acid in ʒij doses every two or three hours until relief, then ʒj three times daily. Dr. Flint, of New York, allowed a number of cases of acute rheumatism to pursue their course without any treatment. They all recovered, the mean duration of the disease being a little under twenty-six days. Our most approved method of treatment gives about the same average.

Dr. J. E. Richardson writes enthusiastically in favor of the treatment of acute rheumatism by the salicyl compounds, giving a brief analysis of thirty cases so treated. He used a freshly prepared solution of salicylic acid and bi-carbonate of sodium, with glycerine and water as a vehicle, so that each dessertspoonful represents ten grains of the salicylate of sodium, the carbonic acid evolved making the mixture more agreeable to the palate and stomach, this dose to be repeated every three hours, making eighty grains to the twenty-four hours. In several cases there was a decided cumulative effect; in but one, however, was this effect toxic. The former impurities of the drug as made from carbolic acid, have

now been reduced to the minimum, and it is as reliable as any made from oil of wintergreen. Local treatment by cotton wool and hot fomentations and the use of opiates, was not neglected. There was no hyperpyrexia in these cases, and in nearly fifty per cent. the temperature did not exceed 102°. Subsidence of pyrexia occurred, on the average, 3.1 days. In fifteen cases it had become normal at the end of forty-eight hours. The average duration of joint pain was 4.5 days. The average time in which patients were kept under observation was 10.1 days, this being the time they were able to resume their employment. Heart complication occurred in one case; this was a case of endocarditis. He believes the salicyl treatment lessens the tendency to heart disease, probably through the reduction of temperature and the destruction of the rheumatic poison. Relapses took place in five cases while the patients were still under tolerably full doses of the drug. Dr. Richardson draws the following conclusions:

1. The more acute the case the more marked the relief afforded by the salicyl compounds.

2. If beneficial effects are to result from the use of the drug, they should be observed within forty-eight hours.

3. If the remedy is administered early in the disease, and in not too large doses, the tendency to heart disease is greatly diminished.

Dr. W. B. Chase, in considering the "Prophylaxis of Rheumatism," recognises first the direct transmission of the rheumatic diathesis; then its prevalence in the temperate zone and under the meteorological conditions of hnmidity with a low temperature. Consequently, his prophylaxis is introduced by directions of how best to avoid exposure, and the wearing of proper clothing, such as silks and woolens next to the skin. A proper care of the emunctories, as bathing for the skin to keep the perspiratory glands in good working order, and attention to the urinary secretion, is dwelt upon. Alcoholic drinks are assumed to be a prolific cause of rheumatism, but in what way is not clearly defined. The undue formation of lactic acid in acute rheumatism is recognised as the cause of the hyperacidity of the secretions, and Bartholow's three types are given, viz.: 1st, active, sthenic cases, in persons of robust health, youth or early adult life. Treatment: Salicin and its compounds.

2d. Asthenic cases in the anæmic and debilitated, often the young. Treatment: Tr. ferri chloridi.

3d. Obese persons and beer drinkers, with flabby muscles and acid indigestion. Treatment: Alkalies.

Probably most persons of rheumatic antecedents will derive benefit, and thereby reduce the liabilities to its constitutional development, by more or less frequent use of natural alkaline and sulpho-alkaline waters. Buffalo lithia water is believed to exert a successful prophylaxis with some.

Marsh Mallow in Palmar Psoriasis.—Dr. F. C. Berry records in the *Practitioner* that after trying in vain to relieve a typical case of psoriasis in a man 65 years of age, who had suffered from it for the past eighteen months, by the use of Fowler's solution internally, and the local application of soft soap, and an ointment of chrysophanic acid and vaseline, oil of cade and vaseline, the ammoniated mercury ointment, and Wright's liquor carbonis detergens, he turned his case over to an old woman who applied the marsh mallow ointment and relieved the intolerable itching and consequent irritation by the first application, and in a month the skin of the hand had almost regained its natural appearance. No other treatment was used except the washings with soft soap. The disease appeared again in a short time, but a fresh application of the ointment cured it at once.

In this case there was no history of syphilis. In the palm of the right hand the integument was hardened and thick, and from off its surface glistening white scales could easily be removed. In some places it was corrugated and fissured. Extension of the fingers would cause the cracks to bleed. The dorsal surface of the thumb was also affected. The ointment was made by cutting the fresh leaves into small pieces, stirring them together with lard and boiling the mixture for half an hour, after which process it is strained through muslin or through a common kitchen strainer, and is then ready for use.

Transfusion of Blood by Hypodermic Injection.—Dr. Paladini reports (*Gaz. Med. Ital. Prov. Veneti.*) an interesting case of successful injection of blood into the subcutaneous cellular tissue of the abdomen in a woman suffering from profuse menorrhagia. R. S., pluripara, aged 48, was reduced by menorrhagia to a profound degree of anæmia. On August 4, the loss was so great that the patient's state became most alarming. Transfusion of blood was urgently indicated; no apparatus for this being at hand, it was determined to inject the blood by means of an exploratory trocar and an ordinary syringe into the subcutaneous cellular tissue of the abdomen. The blood, taken from the husband's arm, was heated to prevent coagulation. The trocar was inserted about four fingers' breadth to the left of the umbilicus, and pushed well in so as to somewhat break up the meshes of the cellular tissue, and thus secure room for the blood to be injected. The stilet being withdrawn, an elastic tube was fastened to the end of the canula; the blood was taken up by an ordinary metal syringe (about 90 cubic centimeters capacity), its nozzle being made fast to the elastic tube, and injected into the subcutaneous cellular tissue, where it appeared as a lump about the size of an egg. Two syringefuls were thus injected. The patient felt no pain; and after two hours the swelling had entirely disappeared. No abscess or other ill effect followed, a slight ecchymosis only for a few days marking the site of the injection. On the next day the patient was much better, and began to take and retain nourishment and sleep well; for some days before there had been constant vomiting, and no sleep. The lax connective tissue lends itself admirably to the transfusion of blood, and to its rapid absorption. The quantity of blood might be easily increased by repeating the injection in two or three different places, to 300 or 400 grammes (about 10½ or 14 ounces). This method is free from the dangers of venous or intra-peritoneal

transfusion, and is most easily done.—*British Medical Journal.*

AN EPIDEMIC OF ERGOTISM.—The *Deutsche Med. Zeitung* gives a detailed account of an epidemic which occurred in the autumn of 1879, in Ober Hesse, near Frankenberg, of which the *Medical Press* furnishes an extract. According to official returns 200 persons were attacked, but others say 500. The ergot was present in both rye and barley, and was computed to amount to 2 per cent. of the bulk. The bread baked from the impure grain was dark, rather blue, and of a peculiar odor; rather sweet to the taste, but not disagreeable.

The first symptoms of poisoning appeared in children even after five days' use of the bread. Weakly persons were affected much more quickly and easily than those who were strong—the latter often retaining their health after months' use of impure bread. A prodromal stage was often observed of several weeks' duration, in which a general feeling of *malaise*, weakness, headache and giddiness were present. In these cases loss of appetite came on. In some cases this was replaced by rabid hunger. The temperature rose slightly in the evening. The pulse was soft and but little accelerated.

Cramps constituted a characteristic symptom, usually confined to the hands and feet, sometimes extending over the whole body, appearing early and disappearing late, involving the flexors of the fingers and toes and the extensors of the arms and thighs. The great toes were generally extended. Shortness of breath, pain in the pericardium and globus, indicated spasm of the diaphragm and œsophagus. Abortive cases ran from fourteen to twenty-one days; mild cases relapsed frequently. Severe cases frequently ended in epileptic attacks, in some as early as the eighth day. A few weeks later, psychical disturbances arose, viz.: extreme restlessness, mania and stupor. Locomotor ataxia was always present, last in order of time. Sensibility undisturbed. Sole and skin reflexes were normal. The tendon reflexes were almost invariably absent, and some cases were observed where they had not returned after some years. The epidermis was raised in large blisters without inflammatory reaction, whilst, simultaneously, the patient frequently lost all the nails of the fingers and toes, and the hair of the scalp. Excretion of sweat was generally increased in the spasmodic stage, and miliaria often made its appearance. Eczema and boils were also frequently observed, as well as urticaria. In the severe cases, menses previously normal, ceased at the commencement of the illness, and did not return till health was re-established. Dysmenorrhœa came on in the slighter cases. Notwithstanding the fact that pregnant women repeatedly suffered severely, no case of abortion was observed. The muscular contractions were considered as due to a centric cause.

SURGERY.

NEW MODE OF TREATMENT OF FISTULA IN ANO.—Under this head, Dr. John Roche, in the *Medical Press*, recounts the frequent unsatisfactory results of the present modes of treating fistulæ, by stimulants, caustics, and the use of the knife. Dissatisfied with this condition of things, having to deal with several cases, and considering that division of the sphincter is not only unnecessary, but that its existence in its entirety should favor the healing process, if properly utilized, he treated his cases by keeping the bowels open with a sulphur and senna electuary, a teaspoonful every night, and directed that at each stool the patient should throw into the bowel some tepid water, in which was a little soap dissolved, and when the sitting was completed that the end of the bowel should be well washed with the same fluid. The fæces were, by this means, carried quickly and easily through the gut contiguous to the fistula, and there was the nearest thing to a safeguard against the foul discharge entering the internal opening of the fistula, were such to exist, or lying in a decomposing state so close to a sore as to prevent its healing. His anticipations were realized in every respect, and the cure seemed marvelous to him. In cases where there was considerable false membrane lining the fistula, he used lint shreds dipped in acetum cantharidis, as a stimulant, and refers to several cases so relieved.

OPHTHALMOLOGY AND OTOLOGY.

A CASE OF CYSTICERCUS IN THE VITREOUS BODY.—G. Souquières reports this case as occurring in the clinic of Prof. Dor, (*Lyon Medical*). A young woman, 23 years of age, gave the history of noticing the appearance as of a cloud of dust, before her right eye, on getting up one morning. This cloud, however, was not sufficient to prevent her seeing minute objects. After continuing unchanged for eight or ten days, vision seemed to be gradually failing. In the daytime, muscæ volitantes were present. Medical advice was sought, and the condition considered as due to a nervous affection. A month later she saw a round, black spot, which was clearly defined, vision being more imperfect. In the darkness, and when she closed her eye, she noted a brilliant, fixed, and persistent point. At the end of two months the black spot had gradually become translucid from the center towards the periphery. At one point the patient observed a marked opacity, which elongated and shortened itself, and which she compared to a leech. By tapping the eye-ball she said she could displace the leech. Vision becoming more and more feeble, she sought the advice of M. Dor, who found a cysticercus, adherent, as he supposed, to the inferior internal portion of the retina. On her second visit he found the cysticercus detached and floating in the vitreous humor. An operation was performed for its extraction, which resulted in the exit of a specimen of the cysticercus. There was no discharge of the vitreous humor, and but insignificant hæmorrhage. The resulting cicatricial tissue caused an opacity, and the retina was almost completely detached at that point.

THE PREVENTION OF BLINDNESS IN CHILDREN.—The following excellent popular directions for the prevention of the frequent form of blindness arising from the destructive purulent ophthalmia of newly-

born infants, is being published and diffused by the Society for the Prevention of Blindness (England): "One of the most frequent causes of blindness is the inflammation of the eyes of new-born babies, a disease which can be prevented and always cured. In almost all blind schools in England and on the Continent, a third, and even more, of the children's blindness is caused by the neglect and unsuitable treatment of this disease. In the Wilberforce School for the Blind at York it is said that out of 89 pupils, 37 are blind from this cause; and several eminent oculists state that half the blindness in Europe is due to this inflammation of the eyes of new-born babies. This frequent blindness is largely owing to the general ignorance of mothers, and to the unpardonable neglect of the midwives, nurses, and others who have charge of the infants in their earliest days. In many cases, these persons prevent resort to skilled medical assistance, in order to try some unsuitable domestic remedies, until it is too late, even by the most skillful treatment, to save the child's sight. Although the disease appears sometimes in a very mild form, it may still, without some suitable treatment, have an unfortunate issue; but, in most cases, the disease takes a more determined character, and then, if left to itself, it may develop with such rapidity that, in the course of a day or two, all hope for preventing blindness is lost. In general, newly-born babies seldom suffer from any other eye disease, and its first appearance is easily recognized by the redness, swelling and heat of the eye-lids, and by the discharge of a yellowish-white matter from the eyes. This dangerous and ruinous disease is always curable if treated at once. Immediately, on the first appearance of these symptoms, send for a medical man; and, until his arrival, proceed at once to keep the eyes as clean as possible by very frequently cleansing away the watery discharge. It is the discharge which does the mischief. The cleansing of the eye is best done in the following manner:

I. Separate the eyelids with the finger and thumb, and wash out the matter by allowing a gentle stream of tepid or warm water to run between them from a piece of rag or cotton wool held two or three inches above the eyes.

II. Then gently move the eyelids up and down in a circular way, to bring out the matter collected under them; wipe it, or wash it off in the same manner. This cleansing will take three or four minutes, and is to be repeated regularly, once every half hour at first, and later, if there is less discharge, every hour.

III. It must be borne in mind that sight or blindness depends entirely in these cases on the greatest care and attention to cleanliness. Small pieces of rag or cotton wool are better than a sponge, as each rag is to be used only once, and should be burnt immediately; sponges should never be used except they are thrown away or burnt after each washing.

IV. A little washed lard should be smeared along the edges of the eyelids occasionally, to prevent them from sticking.

V. The eyes should not be covered up by any bandage or handkerchief, as the discharge is thereby prevented from escaping.

VI. Fresh air and an equal temperature in the sick-room are absolutely required, and the eye, while suffering from the disease, should be kept carefully from all strong lights. Many cases of this disease might be entirely prevented by cleanliness of the eyes. (*a*) Immediately after the birth of the baby, and before anything else is done, the eyelids and all parts surrounding the eyes are to be wiped with a soft, dry, linen rag; afterwards, these parts must be washed with tepid water before any other part is touched. (*b*) Avoid exposing the baby to cold air; do not take it in the open air when cold; at any rate, dress the infant warmly and cover its head, because cold is also one of the causes of this eye disease.—*British Medical Journal.*

NEW INVENTIONS.

THE LITHOPHONE.—This instrument was invented by James McKenzie Davidson, M.B., C.M., and is the result of his experiments with a rubber tube attached to the handle of a sound in an attempt to transmit the impression of the striking of the end of the sound against a calculus in the urinary bladder, to the ear. As described in the *Lancet*, the sound has a hollow cylindrical handle, open at the end like the mouth of a gun. The stem is of solid steel, and nickel plated, and does not differ from the short beaked sounds now in use. The handle is two inches and a quarter long, and hollow, with a diameter of half an inch. Externally, it has roughened longitudinal ridges, for convenience in manipulation. A piece of small and light India rubber tubing, about thirty inches long, is bent at one end, and the loop so formed is thrust into the tubular handle. The other end, fitted with an ivory or bone ear-piece (such as is used with the otoscope), is put into the ear, where it should remain fixed without requiring to be held. A binaural arrangement can be easily made of this, which would greatly intensify the note, and with it two persons can listen at the same time, and so verify the diagnosis with greater exactness. A modification of this is also given, in an egg-shaped bulb at the extremity, instead of the looped end, which barely exceeds half an inch in its widest diameter, and is squeezed into the tubular handle.

In its practical use, a particle of sand weighing less than $^1/_{500}$ of a grain, lying on cotton wool, was detected by hearing its contact with the lithophone; and Alexander Agston, M.D., Professor of Surgery at the University of Aberdeen, gives the details of a case where a man was admitted to hospital suffering from bladder symptoms which pointed to the probable existence of a calculus. The use of the sound by the sense of touch did not detect the stone, but by the use of the lithophone its presence was apparent to every one. The stone was crushed by the lithotrite, whose index gave it a diameter of three-eighths of an inch.

THE

Journal of American Medical Association.

PUBLISHED WEEKLY.

THE EDITOR of this JOURNAL would be glad to receive any items of general interest in regard to local events, or matters that it is desirable to call to the attention of the profession. Letters written for publication or containing items of information, should be accompanied by the writer's full name and address, although not necessarily to be published. All communications in regard to editorial work should be addressed to the Editor.

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SATURDAY, DECEMBER 22, 1883.

INDEX MEDICUS.

SHALL THE INDEX MEDICUS BE DISCONTINUED?—Five years' publication of the *Index Medicus* has proved conclusively:

1. That the mere cost of production (per annum) is not less than $5,000.

2. That the maximum return from subscriptions at $6 per annum has not exceeded $3,600.

3. That the increase of subscriptions during the past two years has been merely nominal.

4. That the limited circulation permits no material return from advertisements.

As the publisher agrees with the editors that—in justice to themselves as well as to those whose generosity has already been severely taxed—the *Index Medicus* must no longer be dependent on voluntary contributions, the undertaking must either be abandoned or at once be placed on the business footing of an equally shared support.

Since there are scarcely 600 subscribers to whom the *Index Medicus* is, or seems to be, a necessity, the question to be determined is whether there remains a sufficient number of subscribers who are willing to continue their subscription at the requisite increase of price.

The editorial preparations requiring an immediate decision, subscribers are urgently requested to respond without delay to the questions submitted below. F. LEYPOLDT, Publisher,

December 1, 1883. 31 and 32 Park Row, New York.

Question 1.—If the future subscription price of the *Index Medicus* is fixed at $10 per annum, are you willing to renew your subscription for 1884 at that rate? 2.—Should not 500 subscribers renew at $10, will you be one of the 417 who are willing to renew at $12?

The foregoing statements and pertinent questions have been received in the form of a circular from the publisher of the *Index Medicus*, and are of sufficient importance to justify a careful consideration on the part of all our readers.

That the *Index* is a work of great value to all members of the profession who desire to know what is being published in the various departments of medicine, and where to find what is written on each important subject, there can be no doubt. To medical teachers and writers it is doubly important. It is a work that would be of much value to all such medical societies and institutions as are sustaining libraries, and are desirous of having early information concerning the contents of all new books, monographs, pamphlets, etc. Its publication during the last five years has not only done great credit to both editors and publisher, but has also added much to the credit of American medical literature on both sides of the Atlantic. The actual annual cost of producing the *Index Medicus*, as appears from the above statement, is about $5,000, which at the present subscription price, $6 per annum, would require only 834 subscribers, or an increase of 250 over the present list. More than this number should be immediately subscribed for the use of of medical societies alone. The Chicago Medical Society has recently appropriated $500 for the purchase of books and periodicals to furnish a medical section or department in the Chicago Public Library. We trust the able committee having charge of the expenditure of the money will not omit the *Index* from its list of purchases. Like the Library and Museum of the Surgeon General's office in Washington, the *Index Medicus* has become, in some degree, national in its character, and should command a feeling of national pride and active interest in its support. At all events, let the questions asked by the publisher be promptly considered in such a way as to double the present patronage of the Index and thereby secure its permanence, with some remuneration for the labor required for its preparation.

ORIGINAL INVESTIGATIONS.—In the JOURNAL of last week (No. 23) was completed the essay of Dr. A. T. Keyt, of Cincinnati, Ohio, embodying the results of a most ingenious and extensive series of experimental investigations concerning the relations of cardiac action to pulse-wave velocity, cardio-aortic interval, etc., and the modifying effects of both stenosis and insufficiency at the mitral and aortic openings. If the three chapters are read together, it will be found that they embody the results of one of the most ingeniously conceived, patiently executed, and logically considered series of experimental investigations concerning important physiological and pathological processes that has appeared in this or any other country during the last decade. All parts of the essay are copiously illustrated by cuts giving the actual

sphygmographic tracings and time markings, with remarkable accuracy. The more carefully and thoughtfully the essay is read, the more will its intrinsic value and interest be appreciated.

MEDICAL SERVICES TO TOWN OR COUNTY POOR, AND ETHICS.—Twice, recently, we have received communications complaining of the injustice of a system long in vogue in perhaps most of the States, by which the town and county authorities annually offer the privilege of serving the sick poor under the charge of the town or county, to the lowest bidder, on the same principle that they invite bids for provisions and clothing. In one of the recent cases brought to our notice, a board of county supervisors, after receiving bids from some half dozen doctors, some of them ridiculously low, awarded the contract to one of the number whose bid was higher than two or three others, thereby violating the very principle of the law under which they claimed to act. The other is from an esteemed correspondent at Tecumseh, Michigan, who says: "In the county of ———, State of Michigan, within thirty miles of its university, the worthy rulers of said county (supervisors) let out the job of medical attendance upon the poor to the lowest bidder in each town, village and township. The town of ———, in this county, has almost three thousand inhabitants. The contract physician for the poor, who, by the way, has practiced medicine in the town for thirty years, receives $19.50 per year for medical attendance, and furnishes medicine. If no bids were made, the supervisors would allow each physician half fees for whatever business he might do among the poor of the towns. Now, Mr. Editor, is there anything in the above asinine transaction contrary to the National Code of Ethics? or is it in accordance with the 'go as you please' code, of New York? Please give us some light."

We presume our correspondent, as well as most of our readers, knows that the National Code of Ethics makes no direct allusion to what is termed contract practice, either in regard to contracts with families, institutions, or corporations of auy kind. But in enjoining it as "a point of honor to adhere" to such rate of charging for professional services as may be adopted by the profession in any given locality, it of course indirectly prohibits all special contracts with families or institutions capable of paying for ordinary professional services. The clause in the Code which refers most directly to bestowal of professional services on public institutions is as follows: "Poverty, professional brotherhood, and certain of the public duties referred to in the first section of this article, should always be recognized as presenting valid claims for gratuitous services; but neither institutions endowed by the public or by rich individuals, societies for mutual benefit, for the insurance of lives or for analogous purposes, nor any profession or occupation, can be admitted to possess such privilege. But to individuals in indigent circumstances, such professional services should always be cheerfully and freely accorded."

It would appear from the last clause quoted, as well as from some other clauses in the Code, that it is the *duty* of every practitioner, so far as his time and health will permit, to respond freely and cheerfully to the calls of all such individuals as are sick and actually too poor to pay for services. Consequently, any contract stipulating for the payment of fees for services to such poor individuals, is contrary to the plain inculcations of the Code. If the authorities of a town, county or city, seeing an unreasonable burden cast upon a physician or surgeon through protracted services to certain poor individuals or families, should voluntarily offer some pecuniary reward either from the public treasury or private resources, it may be accepted without hesitation. And we have known such compensations to be made more than once. But when paupers are actually taken charge of and gathered into "poor-houses" or other institutions supported either by public taxation or private charity, many considerations render it desirable to have the services of some one regular medical attendant; and yet it would be unreasonable to expect any one physician to hold himself in readiness to answer gratuitously all the calls that might come from a "poor-house" containing several hundred paupers. Such institutions cannot be ranked with those spoken of in the Code of Ethics as "*endowed* by the public or by rich individuals," but are by common consent classed as eleemosynary or charitable in character. And so far as any ethical question is concerned, a physician or surgeon could bestow his services upon the pauper inmates as gratuitously as upon any other "indigent individuals" outside of such institutions. But both justice and a wise public policy clearly demand that when public officers, whether supervisors of towns, commissioners of counties, or the municipal officers of cities, take charge of paupers and assume to provide for them out of the public treasury, they should from the same treasury make reasonable compensation for such medical services as their helpless wards may need. Every physician pays his share of the public taxes by which the public treasury is replenished, and there is no more reason why he should give his services gratuitously to paupers supported

from that treasury, than should the supervisor, the county commissioner, or any other citizen. Indeed, the correctness of the principle of action here claimed is everywhere conceded. But the important practical question remains, How shall the rate of compensation for medical services rendered to poor persons under charge of public authorities be regulated? Certainly not by farming out the service to the lowest bidder, as you would the privilege of furnishing meat, corn or clothing. First, because meat, corn, clothing, etc., are material products having a market value below which dealers in them will not bid. But professional services are not materials, the market value of which will necessitate a minimum limit below which the bidders cannot go. The qualifications and skill of a medical man or doctor, unfortunately, have no definite legal measure or weight, like a bushel of corn or a pound of meat. It is easy to see, therefore, that a superannuated doctor, whose age and infirmities are such that the paying part of the community give him very little to do, could afford to bid for the town pauper patronage at a very low figure. So, too, the young doctor just from the college which had given him a diploma after *eighteen months* of medical study, and attendance on two courses of lectures given on *beneficiary* tickets or scholarships. As his qualifications have cost but little either in time, money or mental discipline, and he has plenty of unoccupied time to spare, why should he not compete successfully by underbidding even the *old* doctor who attends to the medical wants of all the paupers in a population of 3,000, for $19.50 per year, and furnishes the medicines besides?

Then, there are a great variety of "doctors" who never saw the inside of a medical college—not even on a free ticket—who could easily underbid the young graduate just alluded to. We need not go further in illustrating the injustice to the sick poor and the unfairness to the profession involved in the common practice of accepting the services of the lowest bidder. Instead of such system, it is plainly the duty of all public officers having charge of poor-houses, or other institutions accommodating the sick at the public expense, to fix a moderate rate of compensation for such medical services as might be called for, whether rendered by one doctor or a dozen, thereby making the aggregate amount paid depend upon the actual amount of services rendered, which is the most correct and honorable rule for all parties. And if members of the profession would everywhere totally refuse to accept the invitations of city, town and county officers to bid for the pauper service, and at the same time actively exert their influence with the municipal and legislative authorities in favor of the more honorable and just method just indicated, it would require but very few years to cause its general adoption.

AN ERROR CORRECTED.—In the JOURNAL of December 8, (No. 22) page 655, in the review of the Report of the State Board of Health of Kentucky, the words "Dr. Holland being unversed in practical chemical analysis," should read, "Dr. Holland being versed in practical chemical analysis," etc. The reference is to Prof. J. W. Holland, of Louisville, Ky., who, for a number of years, was a teacher of chemistry, and is thoroughly informed in all its branches.

NUMBER SEVEN.—Several weeks since we found our supply of the *seventh* number of this journal insufficient to meet the demands of new subscribers who desired all the back numbers. The defect will be remedied in a few days, when the missing number will be sent to all who are entitled to it.

NEWS ITEMS.

MONUMENT TO PINEL.—In consequence of the memorial of the Medico-Psychological Society of Paris, the Municipal Council have commissioned M. Ludovic Durand to execute a statue of Pinel, which will be erected on the Place Pinel, near the Hopital de la Salpetriére. The design represents Pinel standing before a young girl, from whom he has struck off the chains binding her, the barbarous implement being in his hand.

HOW OUR MEDICAL BRETHREN ABROAD REGARD US.—It is astonishing in the present age to contemplate how rapid is the diffusion of knowledge. We receive medical periodicals published in Europe, to find that articles and cases published, as it would seem, only yesterday, have been reprinted and commented on, coming back to us sometimes in a foreign language which makes them read very oddly. But that is not all—our newspapers too receive the same attention, and the *Med. Times and Gazette* for Nov. 17 quotes from two Buffalo papers which give the details of two hospital cases, one of an amputation, and the other of a case of skin-grafting as performed by Dr. Roswell Park, at the same time that they give great praise to the operator and his qualifications. To be sure, in making these extracts, the editor seems disposed to be sarcastic in his comments, and the impression given is not of the most favorable kind.

Perhaps it is the diffusion of this kind of knowledge that has led a Dublin hospital surgeon, as referred to in the *Medical Press*, Nov. 14, to decide to spend the winter in San Francisco. The *Medical Press* tells us that he gave out the impression that he was to reside

permanently in this country, and consequently obtained numerous testimonials as to his capacity for surgical practice, from surgeons of eminence in Dublin. On leaving Dublin, this surgeon issued a lithographed circular to his patients, recommending a certain medical man by name to take charge of them, as he would continue the line of treatment hitherto pursued, and maintain a constant correspondence with San Francisco respecting the progress and treatment of the patients transferred to him. The *Medical Press* criticises severely this circular, and the fact of obtaining testimonials for a temporary absence, which was understood to be meant to be permanent.

SOCIETY PROCEEDINGS.

PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

[Section for Clinical Medicine, Pathology and Hygiene.]

ALBERT N. BLODGETT, M.D., SECRETARY.

November 14, 1883. Meeting called to order at 8 o'clock by Dr. George B. Shattuck, Chairman.

Dr. H. I. Bowditch requested the privilege of occupying a few moments for the purpose of warning the profession against a band of medical tramps, which at present infests Boston and its suburbs, and by every expedient endeavors to extract pecuniary aid from physicians. One of these impostors has suffered an amputation of the thigh, wears an artificial limb, professes to be a graduate of Harvard and the son of a physician, and presents plausible testimonials recommending him to the profession. The letters of commendation were found by Dr. Bowditch to be forgeries, and the man himself is a swindler. Another member of this band of conspirators is a young man, who is elaborately dressed and makes a favorable appearance, and whose habit is to call at the physician's house when the doctor is away. He represents himself to be the son of a celebrated physician of New York, who is a very intimate friend of the physician at whose door the young man is standing. He further states that he has been robbed of all his money and desires to borrow a sum, generally from three to five dollars, to aid him in reaching his home. Upon being informed that the doctor is not at home his eyes fill with tears and he appears to be in great distress of mind, and at length seeks to borrow the sum required of the person who comes to the door. If he does not succeed in this ruse, he asks the time at which the doctor will return, and is very particular *not* to return at that time. Another is a man of swarthy complexion, who pretends to be from India, but is probably an arrant cheat.

The regular business of the evening was then taken up. The first matter was the election of a chairman for the ensuing year, the present incumbent, Dr. G. B. Shattuck, who has filled this office for two years, having positively declined a reëlection. On motion of Dr. R. M. Hodges, seconded by Dr. A. L. Mason, the name of Dr. R. T. Edes was proposed, and he was unanimously elected. As Dr. Edes was not present, the Secretary was directed to acquaint him with the action of the Section.

Dr. G. H. Lyman then presented the first paper of the evening, entitled

TINNITUS AURIUM AND VERTIGO AS PROMINENT SYMPTOMS OF LITHÆMIA.

This was followed by a paper presented by Dr. J. J. Putnam, entitled

RECENT VIEWS CONCERNING THE DIAGNOSIS AND TREATMENT OF LITHÆMIA.

The Chairman alluded to the thoroughness with which the ground was covered by the two readers, and hoped that the discussion of the subject would be full and complete. The subject was then placed before the meeting.

Dr. S. G. Webber said that he had been very deeply interested in both the papers, but wished that in addition to the opinion of so many distinguished authors Dr. Putnam had given us his own views upon lithæmia at greater length. From his review we must conclude that we really know very little upon the subject; even observers, who have devoted much time to the study of the questions involved, have changed their views within the last few years, and now hold opinions quite different or the reverse of their former opinions.

Two symptoms have not been mentioned in these papers, which are not so frequent, perhaps, as the others, but are yet of interest,—irritability of temper, or a change of disposition; this may be only an accidental coincidence depending in part upon the annoyance and discomfort caused by the other symptoms; perhaps, however, it may be due to the deficient nutrition of the brain. These patients are often much more disturbed at certain times in the day than at others, are excitable, and sometimes violent. Another symptom is temporary deafness, which may last only a few hours.

The diagnosis between lithæmia and other nervous affections is by no means always easy. Two conditions or diseases may be thought to be present, namely, tumor of the brain and epilepsy, when there is only lithæmia. A patient with headache, tinnitus, vertigo, change of disposition and languor, may be suspected of having a tumor; even a careful examination may not satisfactorily clear up the doubt, and it would be necessary to wait for time to show the truth by the development of other symptoms, or by the recovery of the patient.

Vertigo, even without loss of consciousness raises a suspicion of epilepsy; when several attacks occur near each other, and then again after a long interval another series of attacks, the resemblance is quite close. As a rule, in lithæmia consciousness is not lost; in epilepsy consciousness is usually lost in some of the attacks, though exceptionally these partial attacks may precede by several months or years the fully developed *grand mal*. In lithæmic vertigo the bromides, which usually lessen the number and severity of the epileptic attacks, have little or no influence for good. Yet it is necessary to guard against an apparent benefit which would be deceptive; if the bromides were given at about the time of a natural remission in the

symptoms the drug might seem to be of benefit. Time would show the error.

We probably need to pay more attention to the character of the urine in all doubtful cases.

Dr. David Hunt remarked that this discussion has suggested the relation of the science of medicine to the art of medicine; our history proves that the attempts to use pure hypotheses as foundations upon which to build methods of practice have obstructed the progress of the art of medicine; in the present instance we have no definite knowledge of the formation of urea and of the conditions in which it exists in the blood; such being the case we are very skeptical as to the advantage of adopting the name "lithæmia" as descriptive of a morbid condition for which a special therapeutics is adopted.

If lithæmia is to be considered as a form of larvaceous gout, we must also acknowledge that since Sydenham's day we have added nothing to his description of gout but the name "urea;" yet he has said nothing of tinnitus aurium as a symptom of this or of any other form of the disorder; it is suggestive to observe how little such a clinical artist as Trousseau has been able to add to Sydenham's description, and that he, too, has had nothing to say of tinnitus; as far as therapeutics are concerned it is noticeable also that the alkaline cathartics, so advantageously employed in lithæmia, are just the remedies which Trousseau has warned against as so dangerous in larvaceous gout.

If the blood-poisoning in this condition is to be accepted as the specific cause of the irritation of the auditory nerve, is it not surprising that we hear so little of tinnitus in Bright's Disease, excepting in those cases where we get direct, local causes in the catarrhal affections which accompany it? We know that anæmia causes irritability of this and other nerves; we know that closure of the Eustachian tubes, spasm of the tensor tympani and stapedius muscles, and various disorders, by direct and by reflex action upon the rich nerve supply of the middle ear, cause this symptom; having founded our knowledge upon so much of fact, we hold that it is not good practice to introduce into this department of knowledge a hypothesis founded not only upon no certain knowledge, but also upon no well-known analogy. Aurists, in the vast majority of cases of persistent tinnitus, are able to demonstrate the cause in some local disease; other objective causes no doubt remain to be discovered, but a theory of "lithæmia" is in no way calculated to aid the search. Let us recall the time when every "blepharitis" was "scrofulous," or "gouty," or something else, and then think of the condition to-day, when, as every oculist knows, nine-tenths of the cases of blepharitis are caused by the lack of proper glasses, and ask ourselves if these specious but baseless hypotheses have ever advanced the art of medicine. As long as they kept us from the path which Donders, Von Graefe, and Helmholtz have followed, they not only kept us from the best in art, but they constantly opposed the application of the methods of science; so in this matter a "lithæmic" tinnitus or vertigo, without adding anything to our practical success, will stand in the way of that careful objective study by which Hebra has made modern dermatology what it is, and to which modern science is continually directing the student of medicine.

Dr. Blake thought that the tinnitus aurium, like pain, might be regarded as a physical conscience, too valuable as a symptom to be ignored or put aside with superficial investigation, and that in weighing it as a symptom, due regard should be had to the character of the tinnitus and its origin. Subjective noises in the ear may be, for instance, either of extrinsic or intrinsic origin. Under the former head being included noises resulting from foreign bodies in the external canal, as of hair impinging upon the membrana tympani, movement of fluid in the middle ear, sounds resulting from contraction of the muscles, changes in tension of the membrana tympani, and in the condition of the Eustachian tube, and the like; while under the head of intrinsic causes may be classed, for the purpose of distinction, the various circulatory murmurs and other sounds, more distinctly musical as a rule, which indicate some irritation of the auditory nerve.

In regard to the cases described by Dr. Lyman, the intrinsic cause of the tinnitus may be masked by the existence of a thickening of the mucous membrane of the middle ear, in itself sufficient apparently to account for the subjective sound, in this case a circulatory murmur, the same obstruction in the middle ear which prevents sound from passing inward preventing this sound from passing outward; for, as Dr. Draper says, in cases of gouty habit there is both an irritation and inflammation of the mucous membrane and a vessel dilatation; the former favors a progressive thickening of the mucous membrane of the middle ear, the latter, when it occurs in the ear, furnishes an increased circulatory murmur.

To treat the local trouble of the middle ear only, under such circumstances, is of course a mistake; it is equally a mistake to leave the ear out of consideration altogether and to refer the aural symptom under consideration to general causes alone.

Dr. R. H. Fitz said that he agreed entirely with the views presented by Dr. Putnam, which contain the opinions of the most recent writers upon lithæmia in its various forms and phases. It is still true, however, as Dr. Hunt has stated, that we as yet know but very little about the essential character of the disease, of which we are obliged to judge from a complex and often a contradictory array of symptoms. Most cases in actual practice are best treated by attention to the underlying dyspepsia. In that variety of this disease represented by neurasthenia the patients sometimes lose flesh and grow worse at the same time, though this is far from being the rule. In the dietary of lithæmia each individual patient must find out by experiment and experience what things he can take, and what he must avoid.

Dr. C. F. Folsom stated that he had seen such cases, and that he had arrived at conclusions regarding them similar to those of Dr. Putnam. Dr. Folsom does not feel at all sure of the pathology of these cases, but treats them all on the same general principle. He mentioned a case occurring in a lady in

which tinnitus had been the prominent symptom, and had subsided under tonic treatment. During some years no symptoms of lithæmia were observed, when suddenly, last summer, an attack of gout supervened.

Dr. G. L. Walton remarked that in many instances there is no ascertainable objective cause for subjective sensations of hearing. The amount of distress occasioned by the noise in the ear varies greatly according to the momentary state of mind which the patient may for the time be in, so that a uniform degree of irritation will awaken a very variable and uncertain amount of reaction or response, sometimes to a degree in no way corresponding to the intensity of the cause, and frequently to a degree far in excess of the normal reaction to the cause. We see this illustrated in the ordinary events of daily practice, as when, for example, one patient cannot obtain sleep if a clock be ticking in the room, while another patient may find the silence of the night oppressive from its unbroken stillness, and may absolutely require the aid and companionship of a noisy mechanical device of wheels and bell, weight and pendulum, in order to procure quiet and refreshing slumber. The symptoms at different times are variable while the cause may be the same; there is a change in the amount of reaction from a uniform degree of stimulation. It is very probable that the functions of the nerve centers become disordered from anæmia due to malnutrition.

Dr. Hunt thought that not half the cases of tinnitus could be explained on the hypothesis of a functional disorder of the nerve centers from excess of uric acid in the blood. All subjective noises are produced by irritation of some or all the fibers of the auditory nerve in some part of its course. It is not necessary to seize upon the idea of a lithæmic excess to account for this symptom, as we may be thus diverted from the real object of our study, which may be of an entirely different character.

Dr. Lyman agreed with the main portion of the discussion, and freely admitted that a large proportion of the cases of tinnitus may be accounted for by tangible and ascertainable disease, but a considerable number are not due to such causation. The question is, "What causes the tinnitus in these cases?" It may be due to the blood. It is known that a suitable nutrition and the vaso-motor system both have much to do with subjective symptoms of all kinds. Under these conditions the heart may be deranged. This symptom is present in a group of cases which represents a large class of patients with subjective auditory symptoms, and particularly tinnitus. The treatment advocated in the paper read before this meeting relieves these symptoms, and we naturally deduce the theory of blood change. Many opposing hypotheses have been brought forward in relation to these well-known symptoms, and we might well become bewildered and skeptical of any knowledge upon the subject. In the cases here presented the subjective phenomena were marked, and in all quickly yielded to the same treatment, and the treatment may be claimed as a truly curative one in tinnitus and vertigo.

Dr. G. B. Shattuck said that he had intended calling attention to the result of the treatment as supporting the diagnosis in the cases reported. Many cases, however, are observed in which tinnitus and vertigo occur, one or both, and which may undoubtedly be regarded simply as cases of malnutrition. When we attempt to group all these cases under the head of lithæmia we should not allow the name to deceive us as to the extent of our knowledge in regard to them.

DOMESTIC CORRESPONDENCE.

LETTER FROM INDIANAPOLIS, INDIANA.

MR. EDITOR:—The two medical colleges (regular) of this city opened the session of 1883–4 in September last, the Medical College of Indiana with fifty students, and the Central College of Physicians and Surgeons with twenty. The average attendance during the year at the former is 100, the latter fifty. Both these schools now require a preliminary examination of students before admission to the course of lectures. This is the first step in the line of progress towards a better and higher medical education. We cannot fail to notice the good effect that the agitation of the "regulation of the practice" has produced, and also the beneficial influence exerted by the Illinois State Board of Health in this direction. For some years past the State of Indiana has been the receptacle for the incompetent and worthless practitioners that have been driven from Illinois, and it is high time that the medical schools of Indiana should draw the line closer. That there should be a law to protect the people against the invasion of incompetent or unworthy practitioners from other States or countries, is, we think, self-evident.

The Indianapolis City Hospital, that was formerly a disgrace to the city and the profession, now affords accommodations for all who, under its rules, can be admitted. A State hospital, where all the sick of the State that seek hospital accommodations can be properly cared for, is needed, and in the near future we hope to be able to announce the establishment of such an institution.

The medical profession of Indianapolis has, by death and removal, lost some of its most prominent members during the last few months. By death, Prof. R. M. Todd, M.D., who was eminent in his profession, and a forcible, impressive lecturer. At the time of his death he occupied the chair of Theory and Practice in the Medical College of Indiana. By the removal of Prof. T. Parvin to Philadelphia, Pa., a vacancy has been made that will be hard, in some respects, to fill. Another one of our oldest practitioners, W. H. Woodburn, M.D., has removed to the "wilds" of Dakota, and also changed his occupation to the peaceable pursuit of stock-raising. We trust he may be an example, so few in number, of a physician successfully adapting himself to other business.

Boston and Indianapolis are alike in one respect, viz., they each have their "poet" physician. The one of Boston we need not name, as there is but *one*.

Ours is Luther Dana Waterman. He was known to his fellows as capable of fairly expressing himself in prose, but that he would be guilty of poetic effusion was not suspected. He appeared suddenly, like a bright new star in the cluster of American muses. His first offering is an edition of ninety-five detached philosophical assertions in blank verse. It enables us to present another example showing that the study and practice of medicine need not, of necessity, make a "one idea" man.

The Marion County Medical Society meets each Tuesday evening, at Indianapolis. Formerly, the physicians of the city alone were members of a local medical society named the "Indianapolis Academy of Medicine." But since the change in the organization of the State Medical Society, county societies have taken the place of other local bodies of this nature, the State Society being composed of delegates from county societies. Thus Indiana has as perfect a system of organized medical bodies as can be found in the Union.

The subject of "Code" and "anti-Code" sometimes disturbs the usual harmony existing among the members, they forgetting that the "Code" was made by the "fathers" in the American Medical Association, and that it must be upheld or changed by them alone.

During the past few weeks valuable articles have been presented to and considered by this Society, upon the subjects of "Malaria," "The Proper Status of Chemical Analysis of Potable Water," "Puerperal Fever," "Gun Shot Wounds," etc.

In discussing the subject of "Potable Water Supply," it was conceded that the use of "dug" wells as such a source of supply should be abandoned, at least in cities and towns, and that "tubed" wells, driven to the second or third stream or strata of water, furnished a pure, wholesome supply; and that cisterns containing rain water, purified by passing through hard brick or porous stone, were also a safe and convenient source of supply. It is idle to rely upon chemical analysis alone to determine the wholesome character of potable water. This truth is fully shown by the report of Dr. Mallet to the National Board of Health, and recorded in Transactions of the American Public Health Association of 1882. The easily understood rules as to the proper water supply, as above given, will solve the problem as to purity, except in cases where water-works demand a larger supply for consumers. But in this case all streams receiving sewage should be avoided.

The subject of puerperal fever was brought before the Society by a case reported by Dr. Jeffries. Death occurred within 12 days after delivery. The inefficiency of continued large doses of quinine to reduce, in any great degree, the abnormal temperature in this case was fully shown. A slight laceration at the os uteri was found, and in the discussion of the case it was held by a portion of the members that through this "door-way" the septic material gained access, and this was the cause of the trouble. The history of the case, however, developed the fact that there had been, for some cause, a lack of a proper contraction of the uterus, so that the clotted blood, etc., had not been sufficiently expelled, but remained undergoing changes that might cause all of the constitutional trouble. The question of washing out the uterus with simple or medicated water was discussed, and the broad assertion made that as a preventive measure, the uterus in all cases of child-birth, should be treated in this manner. This was properly questioned by others who clearly recognized that nature, by immediate and firm contraction, expelled what ought to be cast off; that the washing out of a normal, healthy-acting uterus directly after child-birth would be properly classed as "meddlesome midwifery," while it might be called for when nature or the medical attendant should fail to obtain the normal contraction of the organ.

At the meeting of the Society, Nov. 6, 1883, Dr. T. N. Bryan reported a case of early abortion. In the discussion of this case an interesting question in medical jurisprudence was brought up, viz.: How long a time could elapse after rupture of the membranes before the abortion would take place? The subject involved had, at one time, been before the courts in the case of a practitioner charged with committing criminal abortion. Some of the experts held that in case the membranes were ruptured, abortion would take place within 24 hours in all cases, and upon this testimony the physician was cleared of the charge.

The question was answered in this discussion by Dr. Harvey, who stated that three or four days, or as many weeks, might elapse after the rupture of the membranes before abortion occurred. And he reported two cases where, in the first, two, and in the second three weeks elapsed after rupture of the membranes before the fœtus was expelled.

In your journal of October 13, there appears a notice relating to "training nurses," as recommended by Prof. Gross, at the last session of the American Medical Association. The appreciation of the wisdom of such suggestion has been shown by the action taken at many points, to establish suitable provisions for the proper education and training of nurses. At Indianapolis steps have been taken for this purpose, the "school" being in connection with the City Hospital, and the gentlemen connected with both medical colleges acting as teachers. A suitable number of female teachers has also been secured. This is certainly one of the most sensible movements that have been inaugurated, and, if rightly carried out, will provide the means of furnishing comfort to the sick, and greatly aid in preventing disease. Whether women are suited for surgeons or general practitioners of medicine may be an open question, but the lives of Madame Bovine, La Chapelle, and others, decide the question as to their fitness as *accoucheurs*. That they are the best of nurses, when properly educated and trained, cannot be questioned.

The public health work in Indiana progresses slowly; it may be that this is best, so that calm experience may have its perfect work. The work in this State was brought into existence through much suffering, and, in its infancy, was cradled as in a tempestuous sea; may it prove a child Hercules that, by reason of its strength, may survive its early foes.

Several bills for the "regulation of the practice of medicine" have been before the State Legislature each session since that of 1878–9. Some were good and some very poor. Experience has taught that while a law that required only a preliminary examination before the entrance of a student into college, and an examination by a competent Board of those who do not possess a diploma, is capable, by good management, of doing much good, still the only certain prevention of the flooding of the country with incompetent practitioners will be found in requiring an examination, by a Board wholly separate from a college faculty, of *all* who desire to enter the practice of medicine. In addition, a diploma should be first required. Only by way of such an impartial examination will medical colleges be incited to proper care and diligence, and the ranks of the profession be purified.

The composition of such a "Board of Examiners" is of some importance. In some of the States, the State Board of Health is given the powers of such an examining board. We think this is impolitic, if for no other reason than that a board of health will always have its hands full in attending properly to the health department of State Medicine, while it is as much as any body of men is able to do in a proper manner, to regulate the practice of medicine in their State. It is certain that wherever the work connected with public health is sought to be controlled, that also the depredations of incompetent or dishonest practitioners should be prevented. But it is as certain that wherever both duties are delegated to the same Board, there is a risk of having one or the other of the works slighted. By good luck such a combination may, for a time, succeed in doing much good. But it is impossible that anything like perfect work shall be done, unless the organizations are separate. Yours truly, THAD. M. STEVENS.

LETTER FROM WASHINGTON.

The regular bi-weekly meeting of the Biological Society was held on Friday, Nov. 30, when Dr. Frank Baker read a paper entitled, "The Natural Study of Anatomy."

Dr. Baker's paper was an exposition of the faults of method in the ordinary English text-books of anatomy, with suggestions toward a remedy. The anatomy of the text-books is too mechanical and hardly deserves the name of science, there being no attempt to gradually unfold and develop the subject, as in other sciences. Without preliminary notions the student is plunged at once into the dry details of a geometric description of surfaces and their relations, all interest of practical application or of intelligent comprehension of the meaning of what is disclosed by dissection being suppressed. The alliance between anatomy and physiology is indissoluble, a certain violence being done to either science when its twin is suppressed. This should be kept in view, and function brought forward as establishing structure and slowly changing it.

This method may be applied in three ways: 1st, as illustrating the immediate connection between structure and function, to which belong practical applications of anatomy, which should always be used to illustrate and impress upon the learner the necessity for mastering the dry details: 2d, the correct use of embryology and histology as illustrating the gradual formation and simplest elements of the body; the great advantage of this being that it proceeds from simple to complex. Illustrations were given of the ease with which complicated structures could be explained by this means, the examples being the joints, the temporal bone, the vascular system and the brain.

Instead of placing embryology and histology as separate sections, there should be a few chapters giving the general development of the body and the epithelial and connective tissue structures, the development and structure of separate organs preceding always the description of those organs. Only general outlines to be given, not superseding elaborate treatises on these subjects.

3rd, the moderate use of comparative anatomy, both as throwing light on the real nature of human structures, and as affording by points of contrast means for retaining their details firmly in mind.

The whole work should be preceded by an outline of the accepted parts of the theory of descent with modification especially, heredity, variation, differentiation and division of labor.

A short review was given of the various works on anatomy in English, French and German, the last being considered the best, especially the new work of Gegenbaur, which, as a purely scientific treatise, was the best extant, but should be adapted for general use by additional matter on topographical, surgical and applied anatomy.

The paper elicited considerable discussion, two of the physicians present holding that since the present system had been long and severely tried, it was the best that could be devised; that the one proposed had not only the sin of novelty, it was clumsy, irregular, and too extended for practical use.

The biologists present seemed to be unanimously of the opinion that the method proposed was undoubtedly an improvement, and the one which all sound science showed to be correct. A knowledge of names is not so important as a knowledge of the nature of the structures, which cannot be obtained by the old method. Prof. Cope stated that the method proposed had been employed for some years by Prof. Leidy, of the University of Pennsylvania, and had not been found cumbrous, but was, on the contrary, feasible and satisfactory. Prof. Riley was shocked to find text-books on human anatomy so far behind the demands of modern biological science. It seemed the general opinion of the biologists that a method which had been applied with signal advantage to other branches of the biological tree could not fail of good results when used in human anatomy.

NECROLOGY.

MONTGOMERY, JOSEPH FAUNTLEROY, M.D., of Sacramento, Cal., was born in Nelson county, Va., Nov. 15, 1812, died suddenly in his office where he lodged, in Sacramento, Oct. 6th, 1883. He was the son of Joseph and Jane (Woods) Montgomery, of Irish descent. Having secured a good English and a fair classical education, he began the study of medicine, attending the University of Virginia. He graduated M.D. in 1833, and the following year took a course of lectures at the University of Pennsylvania, where he graduated in 1834. Dr. Montgomery wrote his thesis on Chlorine. Returning to his native county he began practice, but in 1836 removed to Jackson, Miss., where he remained until 1842, when he returned to Nelson Co. He was among the earliest emigrants to California, and settled permanently in Sacramento in 1850, and was among the oldest medical practitioners in California. He was a man fond of study, with an ardent love for his profession, and well informed on all the leading questions of the day. He was one of the original members of the Sacramento Medical Society for Medical Improvement, and its Vice-President in 1859 and again in 1871, and President in 1874. A member of the California State Medical Society, in which he has filled acceptably most of its offices, and long Chairman of the Standing Committee. Since 1870 he has been a member of the State Board of Health. He was one of the original members of the Board of Medical Examiners, and served for a number of years. He became a member of the American Medical Association in 1871.

Dr. Montgomery was a skillful surgeon as well as a good general practitioner. Many of his surgical operations were quite notable, and some of them have been reported in the journals. His more important contributions to medical literature may be found in the Transactions of the societies to which he belonged, and in the current medical periodicals. The following papers have attracted some attention: "Burns and Scalds;" "Treatment of Typhoid Fever;" "Fracture of the Inferior Maxillary Bone, with New Apparatus for Treatment;" "Adulteration of Food, Drinks and Drugs;" "Reports on Medical Education;" "Public Hygiene and State Medicine." Dr. Montgomery was never married, and leaves no known relations in California. His professional life is amply referred to in the November number of the *Pacific Journal*. J. M. T.

MISCELLANEOUS.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT UNITED STATES ARMY, FROM DECEMBER 7, 1883, TO DECEMBER 14, 1883:

Shufeldt, Robert W., Captain and Assistant Surgeon: now on sick leave, relieved from duty in the Department of the East and assigned to temporary duty in the office of the Surgeon General of the Army. (Par. 12, S. O. 284, A. G. O., December 12, 1883.)

LIST OF CHANGES IN THE MEDICAL CORPS OF THE NAVY DURING THE WEEK ENDING DECEMBER 15, 1883:

Surgeon F. M. Dearborne, placed on the retired list from December 10.

P. A. Surgeon A. C. Heffinger, in addition to his duties at the Navy Yard, ordered to attend officers at Portsmouth, N. H.

NEW BOOKS.

Kitchen, J. M. W. Students' Manual of Diseases of the Nose and Throat. New York: G. P. Putnam's Sons, 1883. 6 ? 127 p. il. cl. $1.00.

Archiv. f. Psychiatrie u. Nervenkrankheiten. 174 Bd. 4 ft. Berlin, Hirschwald.

Frick, Dr. Carl Frdr. Die Diphtheritis od. Rachenbraüne, Popular Besprochen. 8vo. 95 pp. Q. Aufl. Wolmirstedt.

Friedrich, V. Diphtheritis u. Deren Erfolgreiche Behandlung Nach Langjährig Bewährter Heilmithode. 8vo. 34 pp. Neuured Heusers Verl.

John, Prof. Dr. Üb. Athmung, Athmungshrft u. Lustverderbniss. Berlin, Parey.

Klinik, Wiener. Vorträge aus der Gesamruten Prakt. Heilkunde 10 Hft. Wien, Urban & Schwarzenberg.

Kormann, San. R. Dr. Ernst. Lehrbuch der Geburtshilfe f. Ærzte u. Studierende Mit 106 Holzschen. 8o. XI, 538 pp. Tübinzen, Laup.

Kuhnt, Prof. Dr. Herm. Beiträge zur Operativen Angenheilkunde Mit 12 Holzschn. 8vo. V. 97 pp.. Jena, Fischer.

Küstner, Prof. Dr. Otto. Beiträge zur Lehre v. der Endometritis Mit 2 lith. 7 af. Imp. 4to. 64 pp. Jena, Fischer.

Langer, Hofr. Prof. Dr. Carl. Anatomie der Äusseren Formen d. Meuschlich en Köopers. Mit 120 Holzschen. 8vo. XII, 296 pp. Wien Toeplitz & Deuticke.

Medicinal-Kalender, Deutscher. 16mo. VIII, 192, 123 und 111, 114 pp. Erlangen-Berold für den Preussischen Staat. 12mo. V. 369 u. LXXXII, 454 pp. Berlin, Hirschwald.

Niemyer's, Weil Prof. Dr. Fel. V. Lehrbruch der Speciellen Pathologie u. Therapie u. s. w. II. Veränd u. Verm. Anfl. 1 Bd. 8vo. VIII, 878 pp. Berlin, Hirschwald.

Preyer, Prof. W. Specielle Physiologie d. Embryo. (In 4 Spgn) 1 Spg. Mit 3 chromolith 7 af. u. Holzschen. 8vo. 160 pp. Leipzig, Grieben.

Puschmann, Prof. Dr. Thdr. Die Medicin in Wein Während der Letzten 100 Jahre. 8vo. VIII, 327 pp. Wien, Perles.

Receptformelu der Medicinischen Klinik zu Leipzig 3 Auft. 12mo. XI, 26 pp. Leipzie, Lorentz.

Reibmagr, Dr. Alb. Die Massage Behandlung, Populär Dargestellt. 8vo. III, 50 pp. Wien, Toeplitz, & Deuticke.

Robinski, Dr. Severin. Zur Kenntniss der Angenlinse u. deren Untersuchungs-Methoden. 8vo. 62 pp. Berlin, Grosser.

Roser, Geh. Med. R. Prof. W. Handbuch der Anatomischen Chirurgie. 8 Aug. 3 (Schluss) Abth. 8vo. XIII, pages 481. 826. Tübingen, Laupp.

Sperrlingk, Alfl. Üb. echte Sitophobie Inaugural Dissertation 8vo. 52 pp. Dorpat, Schnakenburg.

Stahl, Dr. Karl. Geburtshülfliche Operationslehre. 8vo. VIII, 198 pp. Stuttgart, Enke.